October 31, 2022

Via Email/Sharefile

Mr. Sameh Abdellatif
Hazardous Waste Programs Branch
US Environmental Protection Agency Region 2
290 Broadway, 22nd Floor
New York, New York 10007-1866

Re: Third Quarter 2022 Progress Report
Hess Corporation – Former Port Reading Complex (HC-PR)
750 Cliff Road
Port Reading, Middlesex County, New Jersey
EPA ID No. NJD045445483
NJPDES Permit NJ0028878 & NJ0102709

Dear Mr. Abdellatif:

Enclosed please find the Third Quarter 2022 Progress Report for the above referenced site. This report was prepared by Earth Systems, Inc. on behalf of Hess Corporation. As required by Module II (D) of the Hazardous and Solid Waste Amendments (HSWA) Permit number NJD045445483, the enclosed report presents activities associated with the Solid Waste Management Units (SWMUs), including the North Landfarm, South Landfarm, and No. 1 Landfarm, all of the Areas of Concern (AOCs), Historic Spills (HSs), and Remediation Management Units (RMUs) identified at the Hess Corporation- Former Port Reading Complex.

Should you have any questions or comments relating to this report, please call me at 732-739-6444, extension 2305. I can also be reached via e-mail at ablake@earthsys.net. If you have any questions relating to the project and schedule moving forward, you can also contact Mr. John Schenkewitz of Hess Corporation at 609-406-3969.

Sincerely,
Earth Systems, Inc.

Amy Blake
Senior Project Manager

cc: Ms. Julia Galayda – NJDEP (via sharefile)
Mr. John Schenkewitz – Hess Corporation (electronic copy)
Mr. Shawn Ryan – Earth Systems, Inc. (electronic copy)
Mr. John Virgie – Earth Systems, Inc. (electronic copy)

THIRD QUARTER 2022 PROGRESS REPORT

HESS CORPORATION – FORMER PORT READING COMPLEX
NORTH LANDFARM, NO.1 LANDFARM, and SOUTH LANDFARM
SOLID WASTE MANAGEMENT UNITS (SWMUs), AREAS OF CONCERN (AOCs), HISTORIC SPILLS (HSs), AND COMBINED REMEDIATION MANAGEMENT UNITS

Hess Corporation – Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey
EPA ID#: NJD045445483

October 2022

Prepared for:

Hess Corporation
Trenton-Mercer Airport
601 Jack Stephan Way
West Trenton, New Jersey 08628

Prepared by:

Earth Systems
Environmental Engineering
1625 Highway 71
Belmar, New Jersey 07719

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

1.0 Introduction and Summary Table

Earth Systems, Inc. (Earth Systems) has been retained by Hess Corporation (Hess) to provide environmental consulting services for the Hess Corporation – Former Port Reading Complex (HC-PR) facility located at 750 Cliff Road in Port Reading (Woodbridge Township), Middlesex County, New Jersey. A United States Geological Survey (USGS) 7.5 minute series quadrangle map (Arthur Kill, New Jersey) depicting the site location, facility and associated land features is included as **Figure 1**. A Site Plan has been included as **Figure 2** and a tax map of the site is provided as **Figure 3.**

This report documents the investigative and groundwater sampling activities completed in the Third Quarter 2022 (Q3 2022) at the Solid Waste Management Units (SWMUs), including the North Landfarm, South Landfarm, and No. 1 Landfarm, all of the Areas of Concern (AOCs), Historic Spills (HSs), and Remediation Management Units (RMUs). Investigative and remedial activities included groundwater gauging, groundwater monitoring, soil investigation, and Light Non-Aqueous Phase Liquid (LNAPL) monitoring.

SUMMARY OF ACTIONS

Location	Case Number/ Description	Description and Dates of Action
AOC 1	North Landfarm	Quarterly Groundwater Monitoring – July 2022
AOC 2	South Landfarm	Quarterly Groundwater Monitoring – July 2022
AOC 3	No. 1 Landfarm	Quarterly Groundwater Monitoring - July 2022; Remedial Action Activities
AOC 10	Truck Loading Rack	Monthly Groundwater Gauging Events, LNAPL Monitoring & Recovery (Passive & Active) – Conducted as Needed
AOC 14a	AOC 14a Monitoring Wells	Monthly Groundwater Gauging Events
AOC 103	Fire Pits / Fire Training Area	Monthly Groundwater Gauging Events, Remedial Investigation Activities
TRMU	Tankfield Remediation Management Unit	Monthly Groundwater Gauging Events
SRMU	Southern Remediation Management Unit	Monthly Groundwater Gauging Events
Tankfields	Industrial Site Recovery Act (ISRA)	Groundwater Monitoring, Remedial Investigation Activities

2.0 ISRA and Regulatory Requirements Update

A Preliminary Assessment Report (PAR) was submitted to the NJDEP and the USEPA on October 9, 2015. A total of 117 AOCs were identified in the PAR (**Figure 4.1** through **4.5**). Earth Systems concluded that, of the total number of identified AOCs at the site, 62 AOCs required further investigation. The Site Investigation Report (SIR) was submitted to the New Jersey Department of Environmental Protection (NJDEP) and the United States Environmental Protection Agency (USEPA) on November 7, 2015. The NJDEP provided several comment letters on the SIR. The SIR was approved by the NJDEP and USEPA on August 24, 2021. The following table lists the dates of the comment letters and responses:

NJDEP Comment Letter Date	Response to Comment (RTC) Date
August 10, 2017	**December 20, 2017**
June 9, 2020	**July 31, 2020**
December 6, 2018 (Ann Charles NJDEP)	**October 19, 2020**
December 6, 2018 (Jill Monroe NJDEP)	**October 19, 2020**
November 17, 2020	**February 17, 2021**

Select AOC specific SIR comments will be addressed in the Site or AOC specific Remedial Investigation Workplan / Remedial Investigation Report (RIW/RIR) report(s).

RIWs summarizing proposed remedial investigation (RI) activities for selected priority AOCs were initially submitted in 2016. Several supplemental RIWs were also submitted in 2021. As discussed during the October 1, 2021 3rd Quarter (Q3) meeting, “At Risk” investigation activities began in October 2021 and are currently ongoing. Please note that “At Risk” work refers to investigation activities that are proposed in a RIW that is submitted to the NJDEP and EPA for review. If the NJDEP and EPA confirm that the RIW 90-day review timeframe cannot be met or the 90-day review period has expired, the proposed investigation activities may then be conducted by Hess “At Risk”. At the completion of all RI activities (once delineation is complete), a final RIR will be submitted that will document all investigation data and observations.

The following is a summary of submittals for all priority AOCs and AOC groupings, which have been identified by the NJDEP and USEPA:

AOC 1 – North Landfarm

- Remedial Investigation Workplan / Remedial Action Workplan (RIW/RAW) submitted to NJDEP/USEPA in the Third Quarter (Q3) 2016

- 90% Soil Remediation Action Design (RAD) for the engineering controls submitted to the NJDEP/USEPA April 2020
- 100% Soil RAD is currently in process with a targeted submittal in 2022
- Updated Groundwater Sampling Plan being prepared for submittal, review, and NJDEP approval, pending approval of the No. 1 Landfarm Groundwater sampling plan (see below)

AOC 2 – South Landfarm

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016
- Comments received from the NJDEP/USEPA on the RIW/RAW in 2019
- Response to the comments will be submitted once investigation of adjacent AOC 13 – Former Oil Water Lagoons is complete
- Updated Groundwater Monitoring Plan being prepared for submittal, review, and NJDEP approval, pending approval of the No. 1 Landfarm Groundwater sampling plan (see below)

AOC 3 – No. 1 Landfarm

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016
- 100% Soil RAD was submitted to the NJDEP/USEPA in Q3 2019
- NJDEP/USEPA approved the 100% design in Q2 2020
- Permits were submitted for the final design in June 2020, September 2020, and October 2020 (see **Section 4.3** for permits summary)
- Updated Groundwater Sampling Plan submitted to NJDEP/USEPA in Q3 2021 (Comments were provided by the NJDEP on January 27, 2022 and July 6, 2022, a response was submitted on April 22, 2022 to address the January 2022 comments and a draft response was submitted on October 18, 2022)
- Construction remedial capping activities began in October 2021 and were completed in October 2022

AOC 10 – Truck Loading Rack, AOC 57 – Day Tankfield
AREA AOCs – AOC 29 – Mixing Basin, AOC 43 – Truck Unloading Area, AOC 110 – Oil/Water Separator, AOC 111 – Chemical Storage Area, AOC 82 – Former Incinerator Building, AOC 86 - Truck Rack VRU, and AOC 109 – Truck Rack Sump

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016 (AOC 10 only)
- Comments received from NJDEP/USEPA Q1 and Q2 2017
- Response to Comments (RTC) submitted in Q3 2017
- RIW/RAW Approved Q4 2017 and Q3 2018
- RI activities conducted in Q4 2018, Q3 2019, and Q4 2019
- Supplementary revised RIW was submitted in Q2 2021 (all AOCs specified above)
- “At Risk” RI activities began December 2021 and are ongoing
- Groundwater monitoring (existing wells and new wells) was conducted on June 27- 30, 2022 and the analytical results will be provided in the final RIR

AOC 11a – Administration Building; AOC 78 – Administration Building Drainage Channel

- RIW/RAW submitted to NJDEP/USEPA in Q1 2016 and approved by NJDEP/USEPA in Q2 2017
- RI activities began in Q3 2017 and are currently ongoing
- Indoor air sampling was conducted in Q3 2020 and Q1 2021
- A meeting was held on March 16, 2022, to discuss delineation activities for AOC 11a and Site drilling constraints. A power point presentation was provided to the NJDEP and USEPA on March 11, 2022, which summarized historic investigation activities and proposed future investigation activities. The NJDEP requested additional information via email on March 17, 2022. The additional requested information was provided to the NJDEP/EPA on April 21, 2022
- A Site visit with the NJDEP/USEPA occurred on April 27, 2022. The purpose of the visit was to observe drilling constraints and discuss off-site delineation. The NJDEP requested additional information regarding drainage plans for the neighboring property (Cypress Recreation Center, 881 West Ave, Port Reading). Earth Systems/Hess is currently reviewing information provided by the neighboring property and will provide the supplemental information to the NJDEP/USEPA once Sitewide groundwater gauging is complete in November 2022.

AOC 12 – Smith Creek and Detention Basin

- RIW/RAW submitted to NJDEP/USEPA in Q3 2016
- Comments received from the NJDEP/USEPA in Q1 2017
- RTC submitted in Q2 and Q4 2017
- RIW/RAW approved by NJDEP/USEPA Q2 2018
- Sediment and surface water investigation conducted in 2018 and 2019
- Soil investigation and monitoring well installation (on and off-site) conducted in Q3 2019
- Supplementary revised RIW was submitted Q3 2021 (Comments were provided by the NJDEP in Q1 2022 and a response was submitted on October 24, 2022)

AOC 19 – QC Laboratory

- RIW/RAW submitted to NJDEP/USEPA Q2 2016 and approved Q2 2016
- Remedial Investigation Report / Remedial Action Report (RIR/RAR) submitted to NJDEP/USEPA Q2 2017
- Comments received from the NJDEP/USEPA in Q3 2017
- RTC submitted Q3 2017
- Revised RIR/RAR submitted to NJDEP/USEPA Q1 2018
- NJDEP/USEPA meeting in Q2 2018
- Revised RIR/RAR submitted in Q3 2019 and approved in Q4 2019

- Remedial Action Permits (RAPs) for soil and groundwater submitted to NJDEP Site Remediation in Q1 2021 for review prior to submittal
- Deed notice approved by NJDEP/USEPA in Q1 2021 and was filed with Middlesex County
- Meeting was held with NJDEP/USEPA on May 18, 2021, and additional supplemental sampling was requested prior to submitting the final RAPs to NJDEP permitting
- Groundwater sampling was conducted on July 1, 2021
- Final RAPs were submitted to NJDEP Bureau of Remedial Action Permitting in Q3 2021 and comments/revisions were sent via email on March 8, 2022 (from the Site Remediation Case Team). All requested revisions were completed, and the revised documents uploaded to the Earth Systems portal on May 20,2022.
- A revision to Exhibit B-1 of the Classification Exception Area (CEA) packet was requested by the NJDEP on June 16, 2022, and the revised exhibit was uploaded to the Earth Systems portal on June 28, 2022.
- The RAPs and associated appendices will be resubmitted to the permitting group, as per direction from the case team, in October 2022.

AOC 103 – Fire Pits/Fire Training Area (Part of AOC Group – Proposed Future Solar Field Area)

- Site Investigation Workplan (SIW) submitted to NJDEP/USEPA in Q2 2019
- Comments received from NJDEP/USEPA in Q2 2019
- Teleconference and quarterly progress meeting with NJDEP/USEPA in Q2 2019
- RTC submitted in Q2 2019
- Revised SIW submitted in Q4 2019 and approved by NJDEP/USEPA in Q4 2019
- Seven (7) groundwater monitoring wells installed and sampled in Q1 2020
- A PowerPoint presentation summarizing the investigation and recommendations for further investigation was provided to the NJDEP/USEPA on April 9, 2020 and discussed during a teleconference on June 29, 2020
- NJDEP provided additional comments on July 7, 2020 and RTC was submitted to the NJDEP on August 18, 2020
- RIW submitted to NJDEP/EPA in Q1 2021
- NJDEP provided comments on July 28, 2021 and a meeting was held to discuss the comments on August 16, 2021
- RTC was submitted to NJDEP/USEPA on September 28, 2021
- RIW was approved on October 12, 2021
- RI activities began in November 2021 and are ongoing

AOC 16b – Marine Terminal Loading Area, AOC 85 – Marine VRU (RIW also includes area AOCs)

- Marine Area RIW submitted to NJDEP/USEPA in Q3 2021
- “At Risk” RI activities began in Q1 2022 and are ongoing

Tankfields – AOC 6 – HSWA UST, AOC 14a – First Tankfield, AOC 46 – Slop Gasoline Unloading Area, AOC 53 – Second Tankfield, AOC 54 – Third Tankfield, and AOC 56 – Second Reserve Tankfield

- RIW/RAW submitted to NJDEP/USEPA in Q2 2021
- "At Risk" RI activities began in Q1 2022 and are ongoing
- Groundwater monitoring was conducted in Q2 2022 and the analytical results will be provided in the final RIR

Former Refining Area Remediation Management Unit - AOC-9 Alkylation Unit (Sewer Line), AOC-18 Dimersol Unit, AOC-20a T1600-A and T-1600B Transformers, AOC-20b T510-A and T510-B Transformers, AOC-25 X-1950A and X-1950B (Alkylation Neutralization Basin), AOC-26 D-1104 (MEA Sump, AOC-27 EADC Sump, AOC-28 Cooling Water Tower, AOC-30 Sulfur Pit, AOC-31 Brine Pit, AOC-32 X-1951 (SRU Neutralization Basin), AOC-38 NH3 Truck Loading Rack/Ammonia Area, AOC-39 EADC Truck Unloading Area, AOC-40 Fresh Acid Unloading Area, AOC-45 Former Sulfur Recovery Unit Truck Loading Rack, AOC-47 Bleach Truck Unloading Area, AOC-58 Former Chemical Storage Area, AOC-59 API Storage Area, AOC-60 Avenue B Tank Field, AOC-80 Former Crude Topping Unit, AOC-88 Compressor Building, AOC-89 Cracking Tower, AOC-92 TK-701A and TK-701B, AOC-96 Boiler Area, AOC-99 Chemical Storage Area, AOC-117 Diesel Powered Emergency Generator - Millwright's Shop

- RIW/RAW submitted to NJDEP/USEPA in Q2 2021
- "At Risk" RI activities initiated in Q3 2021 and are ongoing

AOC 13 – Former Oil Water Lagoons, AOC 42 – Methanol Truck Unloading Area, Decontamination Area, AOC 87 – Flare Knock Out Drum

- RIW submitted to NJDEP/EPA on August 8, 2022

AOC 14b – Rundown Tankfield, AOC 41 – Gasoline Additive Truck Unloading Rack, AOC 44 – Truck Unloading (Prover Truck) Area 2, AOC 74 – TEL Building (South)

- RIW is being completed with a Q4 2022 targeted submittal to the NJDEP and EPA

2.1 Groundwater Gauging

HC-PR conducts monthly gauging events as part of the Interim Remedial Measures (IRMs) at the site. Bi-weekly gauging events target monitoring wells with a history of LNAPL or sheen, and wells in close proximity to LNAPL or sheen detections.

<u>Bi-Weekly Gauging</u>

Groundwater gauging is currently conducted for the following thirty-six (36) monitoring wells: (PL-1RR, PL-2, PL-3R, PL-4RR, PL-5R, PL-6R, PL-7, PL-8R, PL-9R, TF-1, TF-2, TF-3, TM-6R, TM-7, TR-1R, TR-2R, TR-3RR, TR-3D, TR-3DD, TR-4R, TR-4D, TR-4DD, TR-5, TR-5D, TR-5DD, TR-6, TR-6D, FA-1, FA-2, FA-3, FA-4, FA-5, FA-6, FA-7, FA-14, and FA-15), two (2) recovery sumps (TR-Sump-1 and TR-Sump-2), the interceptor trench, and six (6) surface water gauges (DB-SW, LN-SW, L1-SW, SC-SG-1, SC-SG-1A, and SC-SG-2).

All monitoring wells are gauged by utilizing a Solinist oil/water interface probe and measured from a surveyor's mark (present on the top of the inner casing) to the top of the groundwater table.

During the Q3 of 2022, bi-weekly gauging was conducted in July, August, and September (summarized below). The results of the gauging activities are provided in **Table 1**. Historic LNAPL levels are summarized in **Table 3**.

For reference purposes, all site monitoring well documentation has been compiled into a comprehensive Well Manual. As of the date of this report preparation, the current version of the approved Well Manual is dated November 19, 2021. The Well Manual is revised as new wells are installed, modified, and/or abandoned at the site and re-dated pursuant to agreements between USEPA, NJDEP, Earth Systems, and Hess. The Well Manual includes the following:

- Master Well Construction Details Summary Table
- Well Permits
- Well Records
- Geologic Well Logs
- Form B's

The results of the Q3 2022 monthly groundwater gauging events are summarized below:

- During the July 2022 gauging events, a measurable thickness of LNAPL was encountered in monitoring wells PL-1RR, PL-2, PL-5R, TF-2, and FA-5. A discontinuous sheen was encountered in monitoring wells TR-2R, TF-1, and the interceptor trench.

- During the August 2022 gauging events, a measurable thickness of LNAPL was encountered in monitoring well PL-5R. A discontinuous sheen was encountered in monitoring wells PL-1RR, PL-2, FA-3, FA-5, TF-2, and the interceptor trench.

- During the September 2022 gauging events, a measurable thickness of LNAPL was encountered in monitoring wells FA-5 and PL-5R. A discontinuous sheen was encountered in monitoring wells PL-1RR, PL-2, TF-2, FA-3, and the interceptor trench.

An analysis of groundwater elevations indicate that groundwater flow direction is generally to the south and east, consistent with historic groundwater flow direction on the Site and the Port Reading Conceptual Site Model (CSM) (see **Figures 6**, **7,** and **8**).

2.2 LNAPL IRM

Currently, passive LNAPL recovery methods and scheduled vacuum extraction events are being utilized at the site. Absorbent socks are placed in impacted wells and replaced as necessary. All used socks are placed in a 55-gallon drum staged on-site. Once at capacity, the drum is removed from the HC-PR site and disposed of at a licensed waste disposal facility. Vacuum extraction events are scheduled, as necessary, to address LNAPL observed in the interceptor trench and any monitoring well with significant measurable product. One vacuum extraction event was conducted in Q3 2022. On September 23, 2022, a total of 360-gallons of petroleum impacted water was removed from the interceptor trench and PL-5R. Disposal documentation is included in **Appendix A**.

3.0 Groundwater Monitoring

On July 12, 13, and 14, 2022, groundwater samples were collected via low-flow sampling methodology in accordance with the NJDEP's *Field Sampling Procedures Manual (FSPM)* at the three (3) Landfarm locations (North, No.1, and South Landfarms).

Samples were collected in laboratory supplied glassware and transferred to Alpha Analytical (Alpha) of Westborough, Massachusetts (NJ NELAP Certification No. MA015/MA935) under strict chain of custody procedures.

Pursuant to NJDEP/USEPA direction (via comment letter dated November 13, 2020), analytical results are no longer included in the Quarterly reports. Analytical results will be provided in the Semi-Annual Report only, with the next submittal being January 2023. Groundwater gauging maps for the landfarms are included as **Figures 9**, **10**, and **11** with groundwater elevations summarized on **Table 2**.

4.0 Areas of Concern and Solid Waste Management Units Update

As discussed previously, a PAR and SIR were submitted to the NJDEP and USEPA on October 9, 2015 and November 7, 2015, respectively. The SIR described the soil and groundwater investigation activities conducted on the site. Several RIW's were submitted subsequent to the SI for select AOCs. The following is a brief summary of any remediation and/or RI activities conducted during Q3 2022.

<u>AOC-3 No. 1 Landfarm (SWMU)</u>
A RAW was submitted to the USEPA and NJDEP in September 2016 and comments were received from the USEPA and NJDEP on July 9, 2018. A 100% Soil RAD for the No. 1 Landfarm engineering control was submitted on May 24, 2019. Comments regarding the 100% engineering control design submittal were received from the NJDEP on October 7, 2019. The comments were addressed by Hess/Earth Systems on November 1, 2019 and the NJDEP subsequently approved the response. The NJDEP and USEPA issued an approval letter of the 100% RAD on April 28, 2020.

The following permits were submitted in June 2020 and October 2020 and have been approved by the NJDEP on the dates provided:

- Soil Erosion & Sediment Control Plan (Freehold Soil Conservation District), approved on August 17, 2020
- Flood Hazard Area Individual Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- Waterfront Development GP-11 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- Freshwater Wetland GP-4 Permit (NJDEP Land Use Regulation Program), approved on September 25, 2020
- NJPDES B4B Permit (NJDEP Wastewater Program), approved on September 15, 2020
- Treatment Works Approval TWA-1 Permit (NJDEP Wastewater Program), approved on February 18, 2021
- NJPDES Individual Permit (NJDEP Stormwater Program), public comment period is over and approved on August 1, 2021.

New Jersey Pollutant Discharge Elimination System (NJPDES) personnel conducted a Site inspection on June 16, 2022 of the No. 1 Landfarm leachate system. A report regarding the inspection results is not available yet. Once the report is available, it will be included in the next Quarterly Report.

The updated Groundwater Sampling Plan for the No. 1 Landfarm was submitted on August 25, 2021 to the NJDEP and USEPA. The NJDEP provided comments on January 27, 2022, and a response was submitted on April 22, 2022. The NJDEP provided additional comments on July 6, 2022 and a draft response was submitted on October 18, 2022.

Landfarm capping and construction activities were initiated in October 2021 and completed in October 2022. Closure documents, including a draft Deed Notice, are currently being prepared.

5.0 Schedule

Site-wide LNAPL Monitoring & Recovery

Bi-weekly gauging events continue to be conducted as part of the IRM at the site. In addition, LNAPL will continue to be removed via vacuum truck from both the interceptor trench and select monitoring wells, as necessary. Passive absorbent socks and booms will also continue to be deployed in both the interceptor trench and select monitoring wells, as necessary.

AOC 10 – Truck Loading Rack and AOC 57 – Day Tankfield

As discussed during the Q3 Quarterly meeting, “At Risk” investigation activities began in October 2021 and are currently ongoing. At the completion of all AOC RI activities, a final AOC 10 and AOC 57 RIR will be submitted that will document all investigation data and observations.

Groundwater monitoring (existing and new wells) was conducted in June 2022. Analytical results will be provided in the final RIR.

AOC 12 – Smith Creek and Detention Basin

A Supplemental RIR/RIW was submitted in Q1 2020. Based upon subsequent discussions with NJDEP/USEPA pertaining to the Port Reading June 9, 2020 memo (i.e. the "over-arching issues" memo), the RIR/RIW was rescinded and revised to incorporate the additional requested information. The revised RIR/RIW was submitted on July 30, 2021. The NJDEP provided comments on February 23, 2022, and a response was submitted on October 24, 2022.

AOC 103 – Fire Pits/Fire Training Area (Part of AOC Group – Proposed Future Solar Field Area)

The RIW was approved on October 12, 2021 and RI activities began in November 2021 and are still ongoing. At the completion of all AOC RI activities, a final RIR, for this AOC group, will be submitted that will document all investigation data and observations.

AOC 11a – Administration Building

A meeting was held on March 16, 2022, to discuss delineation activities for AOC 11a and Site drilling constraints. A power point presentation was provided to the NJDEP and USEPA on March 11, 2022, which summarized historic investigation activities and proposed future investigation activities. The NJDEP requested additional information via email dated March 17, 2022. The additional information was provided to the NJDEP/USEPA on April 21, 2022. A Site visit with the NJDEP/USEPA occurred on April 27, 2022. The NJDEP requested additional information regarding drainage plans for the neighboring property. Earth Systems/Hess is currently reviewing information provided by the neighboring property and will provide the supplemental information to the NJDEP/USEPA once the annual sitewide groundwater gauging is completed in November 2022.

Former Refining Area Remediation Management Unit (FRAMU)

As discussed during the Q3 Quarterly meeting, "At Risk" investigation activities began in October 2021 and are currently ongoing. At the completion of all AOC RI activities, a final RIR, for this AOC group, will be submitted that will document all investigation data and observations.

Former Marine Loading Dock Area

The Marine Loading Dock Area RIW was submitted on July 12, 2021. As discussed during the Q3 Quarterly meeting, "At Risk" investigation activities began during Q1 2022 and are currently ongoing. At the completion of all AOC RI activities, a final RIR, for this AOC group, will be submitted that will document all investigation data and observations.

Groundwater monitoring (existing and new wells) is scheduled to be conducted in Q4 2022. Analytical results will be provided in the final RIR.

Tankfields

As discussed during the Q3 USEPA/NJDEP/Hess/Earth Systems meeting, "At Risk" investigation activities began during Q1 2022 and are currently ongoing. At the

completion of all AOC RI activities, a final RIR, for this AOC group, will be submitted that will document all investigation data and observations.

Groundwater monitoring (existing and new wells) is scheduled to be conducted in Q4 2022. Analytical results will be provided in the final RIR.

Landfarms

The next quarterly sampling event for the North, South, and No. 1 Landfarms is scheduled for October 2022.

AOC 1 – North Landfarm (SWMU)

Routine groundwater monitoring will continue at the North Landfarm, pending approval and execution of the proposed Closure Plan. A RAW was submitted to the USEPA and NJDEP for the North Landfarm in September 2016. Comments were received from the USEPA and NJDEP on June 7, 2018. A 90% Soil Remediation Action Design (RAD) for the North Landfarm engineering control was submitted to the USEPA and NJDEP on October 24, 2019. The NJDEP and USEPA issued an approval letter for the 90% design on April 28, 2020. The current owner, Buckeye, completed the lining of the tankfield located directly adjacent to the North Landfarm. The 100% RAD is in the process of being finalized for 2022 submittal.

The updated Groundwater Sampling Plan for the North Landfarm is being prepared and will be submitted pending approval of the Groundwater Sampling Plan for the No. 1 Landfarm.

AOC 2 – South Landfarm (SWMU)

Routine groundwater monitoring will continue at the South Landfarm, pending approval and execution of the proposed Closure Plan. A RAW was submitted to the USEPA and NJDEP for the South Landfarm in September 2016. Comments were received from the USEPA and NJDEP on March 20, 2019. A RIW was submitted for AOC 13- Former Oily Water Lagoon Area on August 8, 2022, which is adjacent to the South Landfarm. A response will be provided to the NJDEP South Landfarm comments once an investigation of the AOC 13 area is complete.

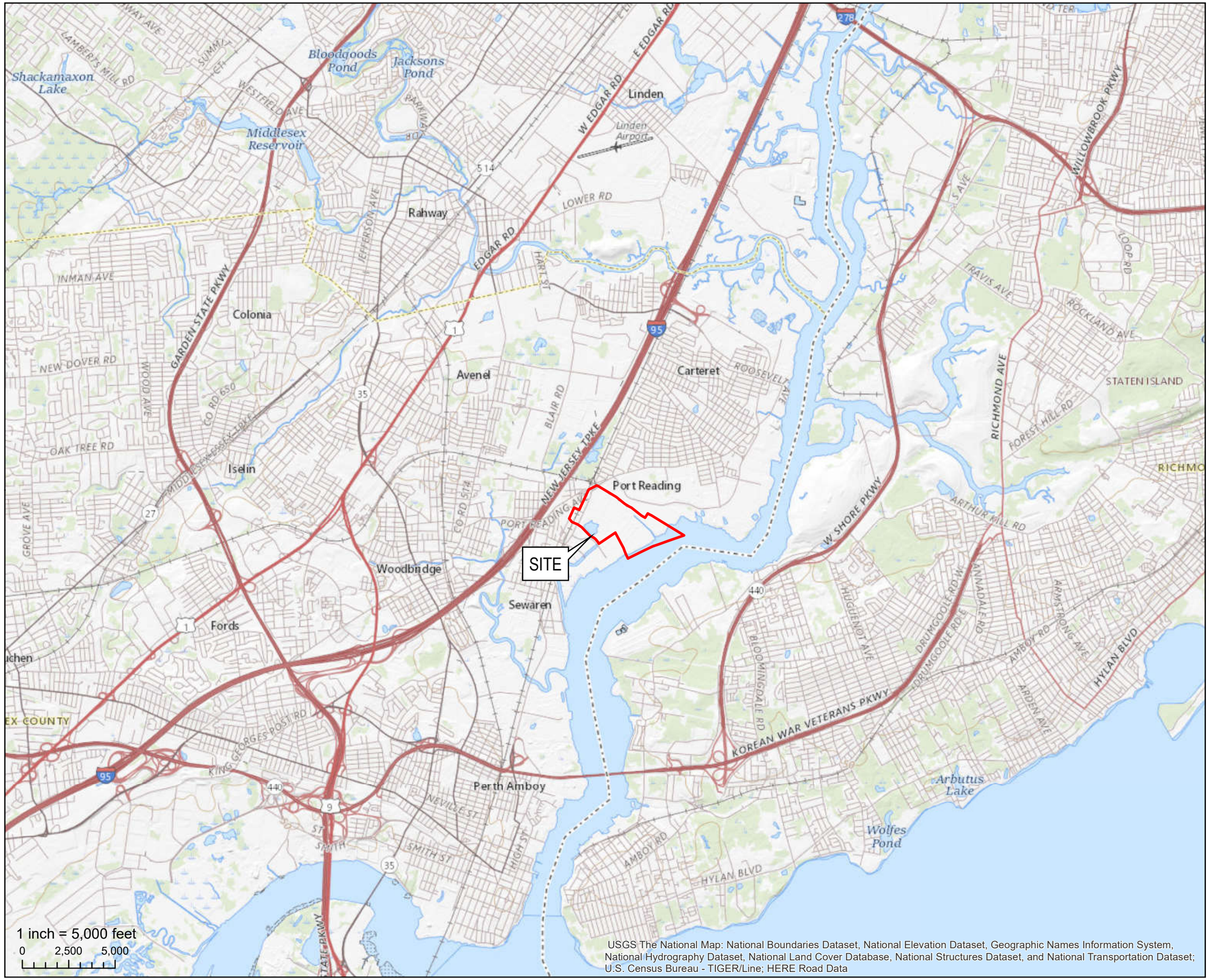
The updated Groundwater Sampling Plan for the South Landfarm is being prepared and will be submitted pending approval of the Groundwater Sampling Plan for the No. 1 Landfarm.

AOC 3 – No. 1 Landfarm (SWMU)

Routine groundwater monitoring will continue at the No. 1 Landfarm. The updated Groundwater Sampling Plan for the No. 1 Landfarm was submitted on August 25, 2021 to the NJDEP and USEPA. The NJDEP provided comments on January 27, 2022 and a response was submitted on April 22, 2022. The NJDEP provided additional comments on July 6, 2022 and a draft response was submitted on October 18, 2022.

Remedial capping activities began in October 2021 for the No. 1 Landfarm and were completed in October 2022. Closure documents are currently being prepared to document the remedial action.

Figures



USGS The National Map: National Boundaries Dataset, National Elevation Dataset, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Census Bureau - TIGER/Line; HERE Road Data

N

LEGEND

Port Reading Site Boundary

NEW JERSEY QUADRANGLE LOCATION:
53 - JERSEY CITY, NEW JERSEY

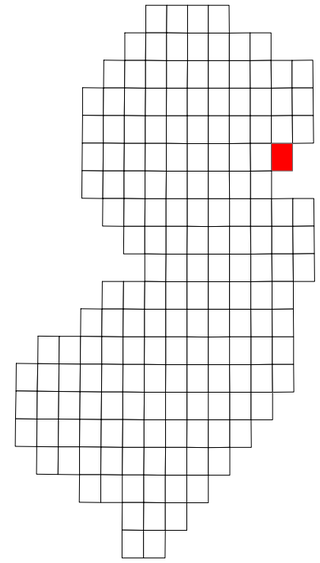


FIGURE 1:
USGS SITE LOCATION MAP

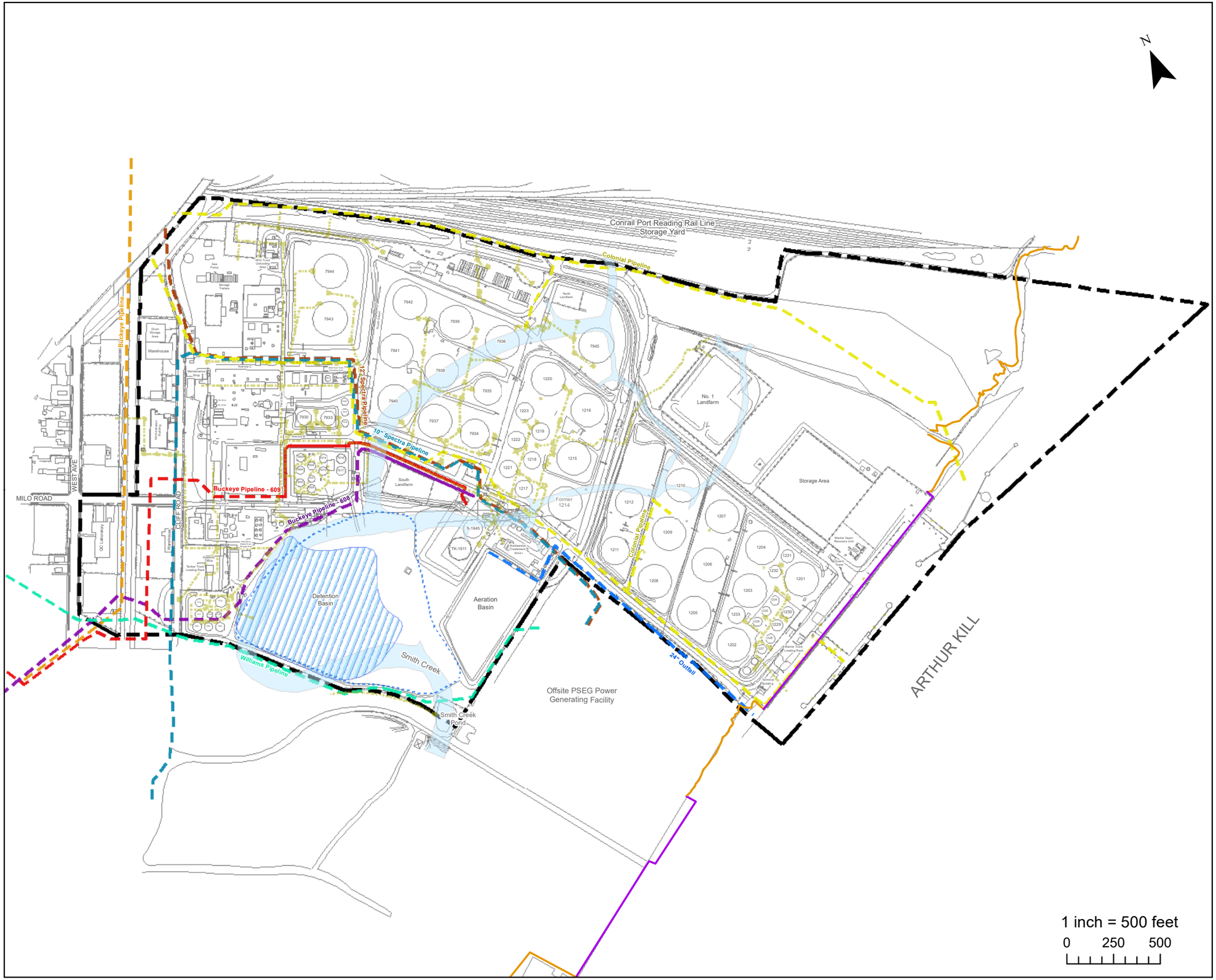
HESS CORPORATION
FORMER PORT READING TERMINAL
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	4/16/2020
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized. Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

Document Path: P:\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Sitewide\GIS\Port Reading - USGS Site Location Figure.mxd



LEGEND

- Site Boundary
- AOC 12 Extent
- Basin Present Extents
- Former Smith Creek Channel
- Shoreline
- Bulkhead

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Williams Pipeline
- Sitewide Utilities/Wastewater

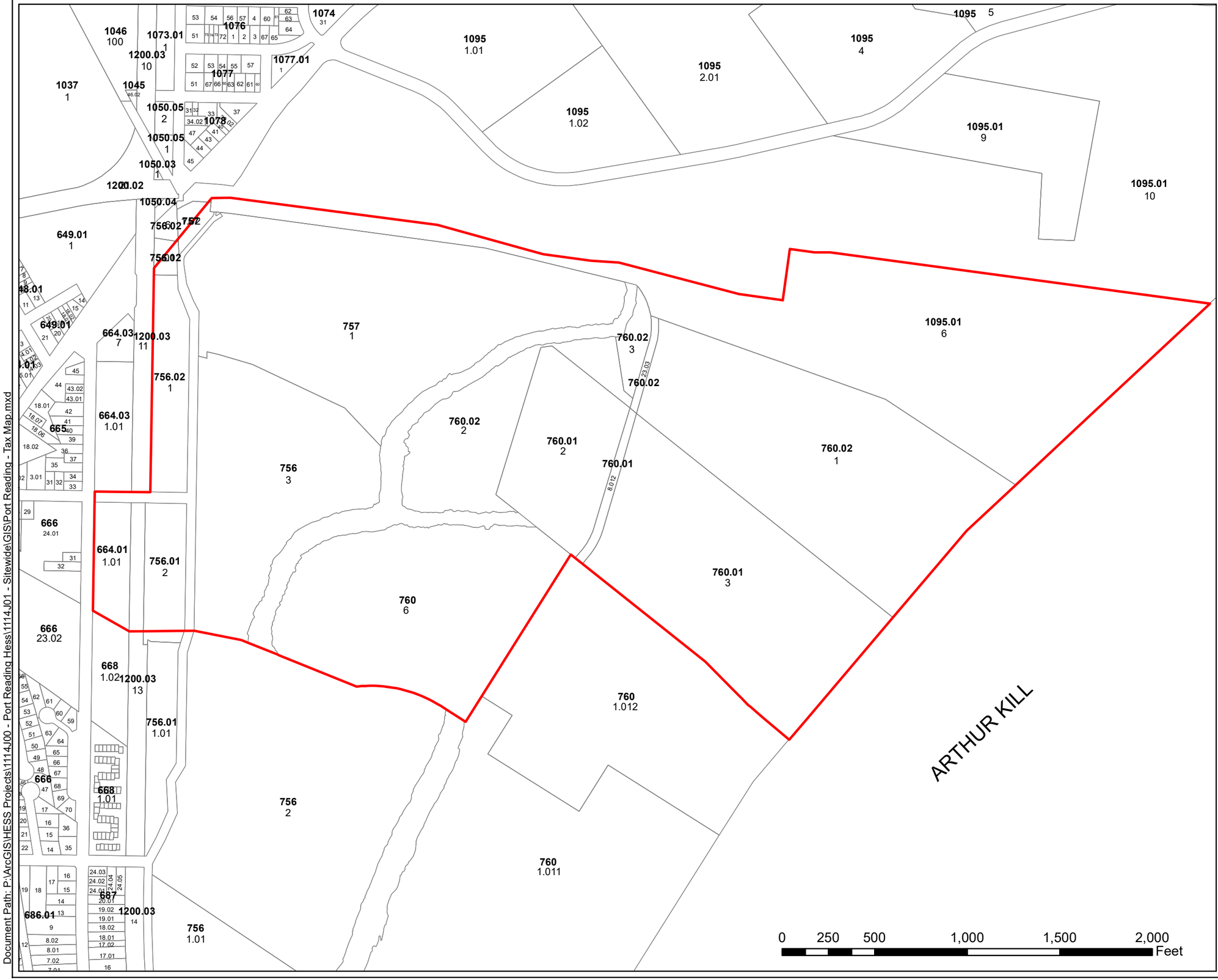
Utility and Pipe Line Note:
- Solid Line: Above-ground
- Dotted Line: Underground

FIGURE: 2
Site Plan

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	03/25/2021
SRP PI#:	006148	**Drawn By:**	AE

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451



LEGEND

- Site Boundary
- Tax Parcels

N

FIGURE: 3

TAX MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	04/22/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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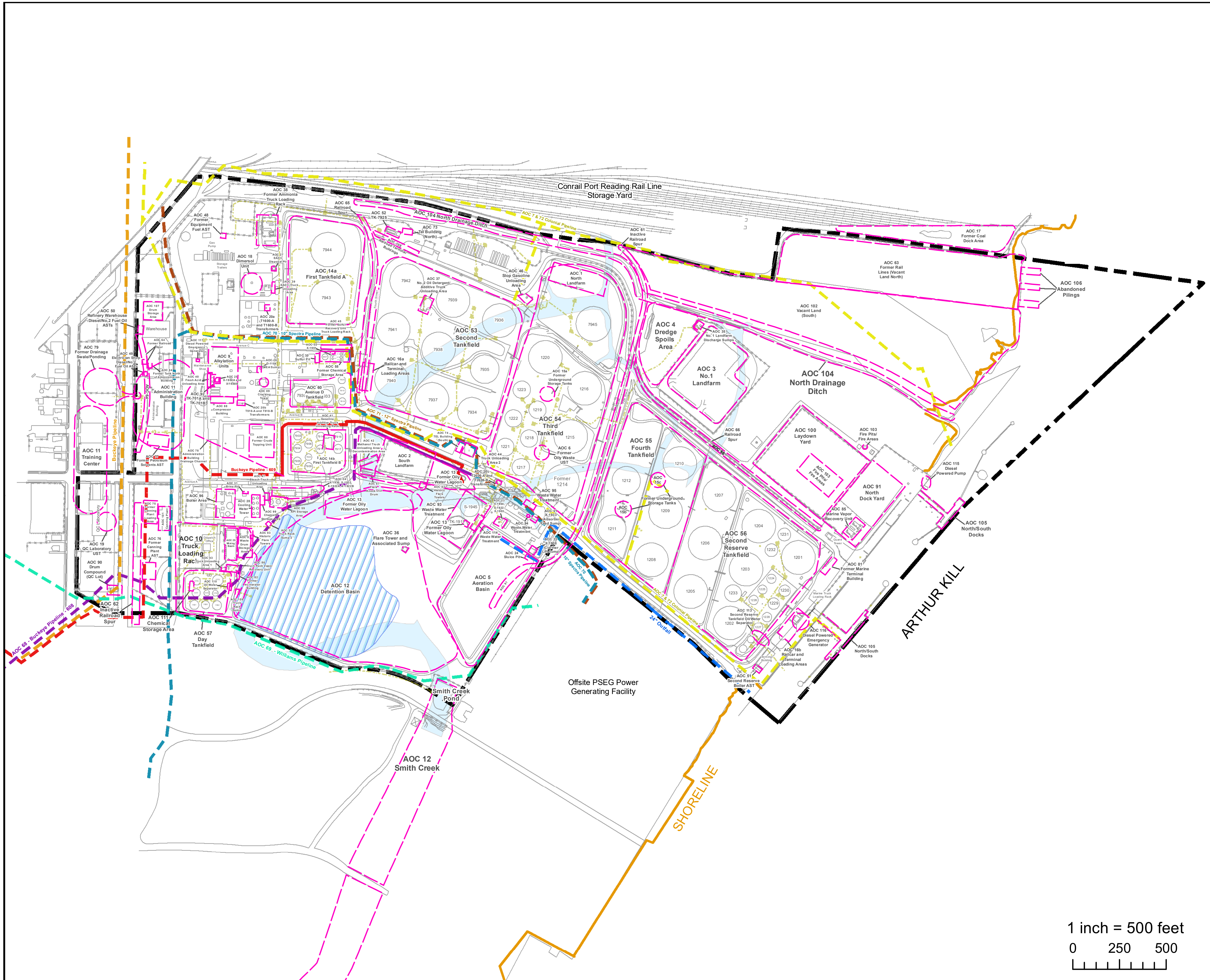
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

Document Path: P:\ArcGIS\HESS Projects\1114J00 - Port Reading Hess\1114J01 - Sitewide\GIS\Port Reading - Tax Map.mxd



LEGEND

- AOC Boundary
- Sitewide Utilities
- Shoreline
- Site Boundary
- Detention Basin Current Extents
- Former Smith Creek Channel

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

FIGURE: 4

AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/24/2021
SRP PI#:	006148	**Drawn By:**	KJ/RC

Earth Systems
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This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized.
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

LEGEND

- AOC Boundary
- Sitewide Utilities
- Underground Utility Lines
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
Solid Line: Aboveground
Dotted Line: Underground

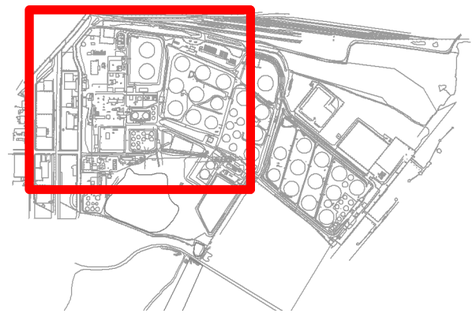

FIGURE: 4.1

AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/25/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
Environmental Engineering
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1 inch = 204 feet
0 100 200

AOC 7 & 72 Colonial Pipeline
AOC 61 Inactive Railroad Spur
AOC 17 Former Coal Dock Area
AOC 63 Former Rail Lines (Vacant Land North)
AOC 1 North Landfarm
AOC 102 Vacant Land (South)
7945
AOC 35 No. 1 Landfarm Discharge Sumps
AOC 4 Dredge Spoils Area
1220
AOC 15a Former Underground Storage Tanks
AOC 3 No.1 Landfarm
AOC 104 North Drainage Ditch
1216
Fifth Street
12
AOC 54 Third Tankfield
1215
8
AOC 6 Former Oily Waste UST
AOC 55 Fourth Tankfield
AOC 66 Railroad Spur
AOC 66
AOC 100 Laydown Yard
AOC 103 Fire Pits/ Fire Areas
1210
AOC 103 Fire Pits/ Fire Areas
AOC 115 Diesel Powered Pump
1212
Former 1214
AOC 95 Waste Water Treatment
AOC 15c
Former Underground Storage Tanks
1207
AOC 91 North Dock Yard
AOC 15b
1209
AOC 85 Marine Vapor Recovery Unit
AOC 21 X-1933 (Adsorber Feed Sump)
1211
1204
AOC 105 North/South Docks
1231
AOC 56 Second Reserve Tankfield
1206
Guard Tower
1232
AOC 22 X-1908 (Clarifier Lift Sump)
1201
1208
AOC 81 Former Marine Terminal Building
1203
1224
10" Spectra Pipeline
AOC 70
24" Outfall
AOC 7 & 72 Colonial Pipeline
1225
1230
1205
1233
Marine Truck Loading Rack
1226
Arthur Kill

1 inch = 200 feet
0 100 200

LEGEND

N

- AOC Boundary
- Underground Utility/Wastewater System
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

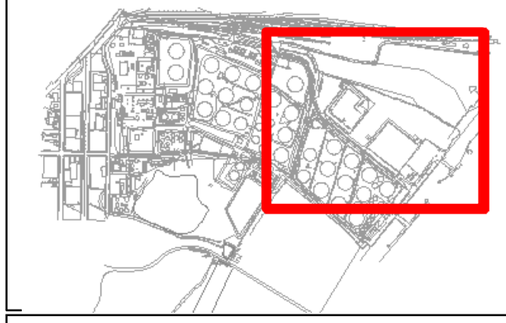

FIGURE: 4.2
AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/26/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

AOC 3
No.1
Landfarm

AOC 104
North Drainage
Ditch

AOC 15a
Former
Underground
Storage Tanks

Fifth Street

AOC 54
Third
Tankfield

AOC 55
Fourth
Tankfield

AOC 66
Railroad
Spur

AOC 100
Laydown
Yard

AOC 103
Fire Pits/
Fire Areas

AOC 91
North
Dock Yard

AOC 74
TEL Building
(South)

AOC 71 - 12" Spectra Pipeline

AOC 2
South
Landfarm

AOC 13
Former Oily
Water Lagoon

AOC 44
Truck Unloading
Area 2

AOC 6
Former
Oily Waste
UST

AOC 20c
T2606-A and
T2606-B
Transformers

AOC 83
Historic
Flare
Towers

AOC 95
Waste Water
Treatment

AOC
15c

Former Underground
Storage Tanks

AOC
15b

AOC 93
Waste Water
Treatment

AOC 23
X-1904,
S-1922,
X-1903

AOC 21
X-1933
(Adsorber
Feed Sump)

AOC 94
Waste Water
Treatment

AOC 114
Waste Water
Treatment

AOC 22
X-1908
(Clarifier
Lift Sump)

AOC 24
Sluice Pit

AOC 56
Second
Reserve
Tankfield

AOC 85
Marine Vapor
Recovery Unit

Guard
Tower

AOC 81
Former Marine
Terminal
Building

10" Spectra Pipeline

AOC 70

24" Outfall

AOC 7 & 72 Colonial Pipeline

AOC 5
Aeration
Basin

AOC 61

AOC 113
Second Reserve
Tankfield Oil/Water
Separator

Marine Truck
Loading Rack

AOC 116
Diesel Powered
Emergency
Generator

AOC 16b
Railcar and
Terminal
Loading Areas

Terminal
Building

AOC 105
North/South
Docks

Off site PSEG Power
Generating Facility

AOC 51
Second Reserve
Boiler AST

Shore Line

Arthur Kill

Smith Creek
Pond

AOC 12
Smith Creek

1 inch = 200 feet
0 100 200

LEGEND

- AOC Boundary
- Underground Utility/Wastewater System
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

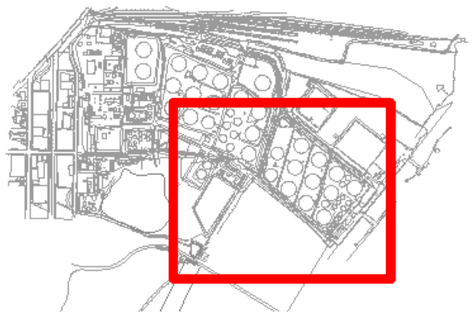

FIGURE: 4.3
AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/23/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
Environmental Engineering
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T. 732.739.6444 | F. 732.739.0451

AOC 50 Refinery Warehouse Diesel/No.2 Fuel Oil ASTs
Drum Storage Area
Warehouse
AOC 64 Former Railroad Spur
AOC 79 Former Drainage Swale/Ponding
AOC 49 Electrician Shop Diesel/No.2 Fuel Oil ASTs
AOC 84 Former Tank North of Administration Building
AOC 64
AOC 11 Administration Building
Administration Building
AOC 11 Training Center
Buckeye Pipeline
AOC 77 Former Petroleum Solvents AST
MILOS WAY
WEST AVENUE
QC Laboratory
AOC 19 QC Laboratory UST
AOC 90 Drum Compound (QC Lot)
AOC 75 Former Canning Plant Loading Area
AOC 101 Canning Plant
AOC 76 Former Canning Plant AST
AOC 62 Inactive Railroad Spur
AOC 111 Chemical Storage Area
AOC 68 - Buckeye Pipeline - 608
AOC 57 Day Tankfield
AOC 20a T1600-A and T1600-B Transformers
AOC 70 - 10" Spectra Pipeline
AOC 45 Former Sulfur Recovery Unit Truck Loading Rack
AOC 117 Diesel Powered Emergency Generator
Avenue C
AOC 32 X-1951
AOC 30 Sulfur Pit
AOC 58 Former Chemical Storage Area
AOC 9 Alkylation Units
Maintenance Shop
AOC 26 D-1104 (MEA Sump)
Third Street
AOC 40 Fresh Acid Unloading Area
AOC 25 X-1950A and X-1950B
AOC 89 Cracking Tower
AOC 60 Avenue D Tankfield
AOC 88 Compressor Building
AOC 20b T510-A and T510-B Transformers
Avenue B
AOC 41 Gasoline Additive Truck Unloading Rack
AOC 80 Former Crude Topping Unit
AOC 78 Administration Building Drainage Channel
AOC 14b First Tankfield B
AOC 42 Methanol Truck Unloading Area/ Decontamination Area
AOC 71 - 12" Spectra Pipeline
AOC 74 TEL Building (South)
AOC 2 South Landfarm
AOC 13 Former Oily Water Lagoon
AOC 44 Truck Unloading Area 2
AOC 20c T2606-A and T2606-B Transformers
Buckeye Pipeline - 609
AOC 47 Bleach Truck Unloading Area
Avenue A
AOC 31 Brine Pit
AOC 34 X-1930, X-1932, X-1922A, X-1922B
AOC 87 Flare Knock-Out Drum
AOC 83 Historic Flare Towers
AOC 96 Boiler Area
AOC 28 Cooling Water Tower
AOC 99 Chemical Storage Area
AOC 59 API Storage Area
AOC 13 Former Oily Water Lagoon
AOC 93 Waste Water Treatment
S-1945
TK-1911
AOC 114 Waste Water Treatment
AOC 10 Truck Loading Rack
Dispatch Office
AOC 29 Mixing Basin
AOC 8 Waste Drum Storage Area
AOC 33 Truck Rack Sump 2
AOC 36 Flare Tower and Associated Sump
AOC 43 Truck Unloading Area 1
AOC 86 Truck Rack Vapor Recovery Unit
AOC 82 Former Incinerator Building
AOC 110 Oil Water Separator
AOC 109 Truck Rack Sump
AOC 12 Detention Basin
AOC 5 Aeration Basin
AOC 53 Second Tankfield
AOC 16a Railcar and Terminal Loading Areas
AOC 69 - Williams Pipeline
Smith Creek Pond
1 inch = 200 feet
0 100 200

LEGEND

- AOC Boundary
- Underground Utility/Wastewater System
- Detention Basin Current Extents
- Site Boundary

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:
- Solid Line: Aboveground
- Dotted Line: Underground

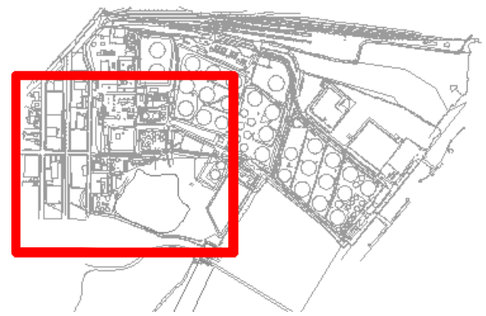
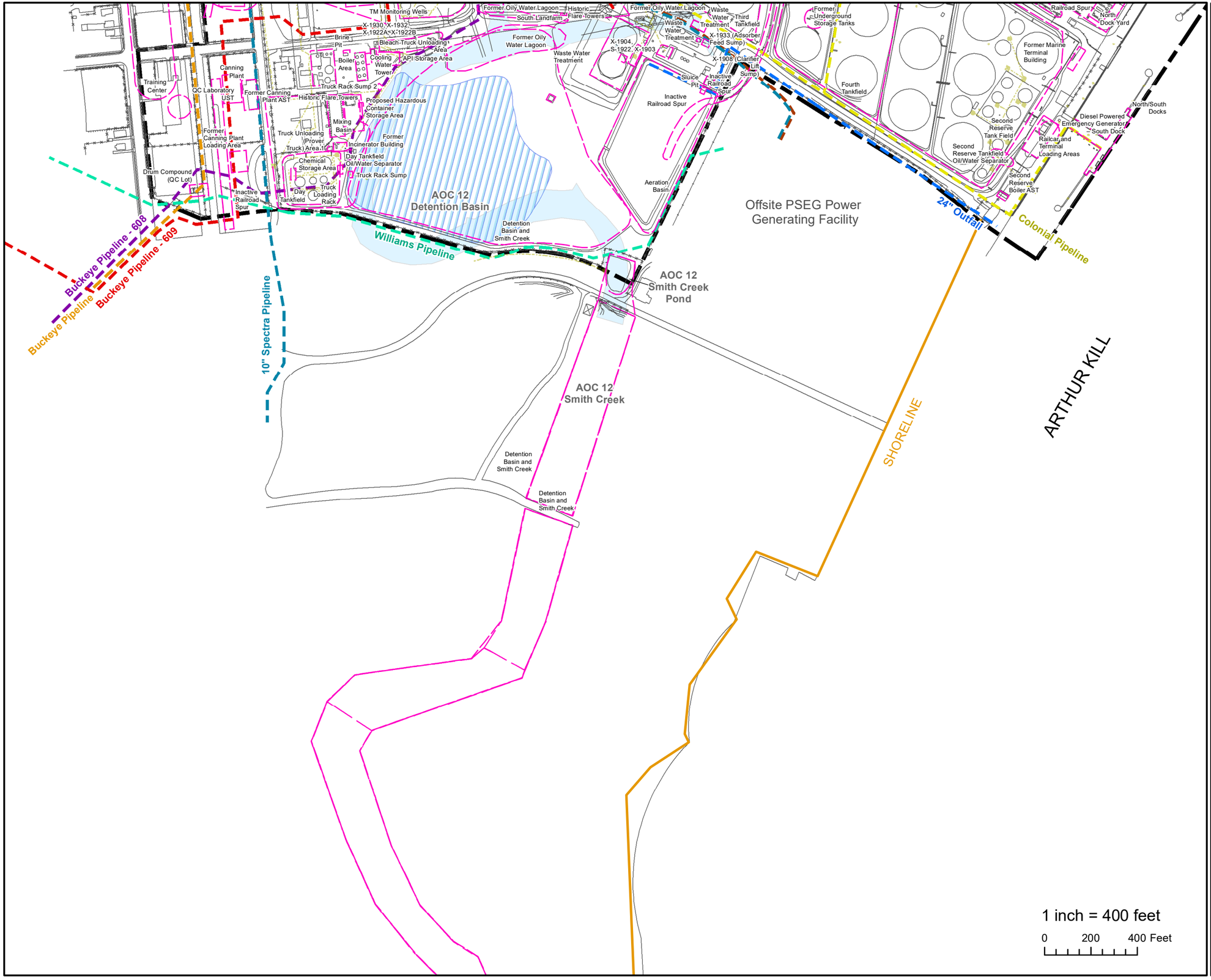


FIGURE: 4.4
AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/23/2021
SRP PI#:	006148	**Drawn By:**	KJ,RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451



LEGEND

- AOC Boundary
- Sitewide Utility/Wastewater System
- Shoreline
- Site Boundary
- Detention Basin Current Extents

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline

Pipelines:

- Solid Line: Aboveground
- Dotted Line: Underground

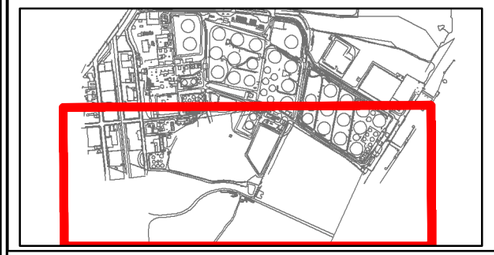


FIGURE: 4.5

AREAS OF CONCERN MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	2/25/2021
SRP PI#:	006148	**Drawn By:**	KJ,AE

Earth Systems
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1625 Highway 71, Belmar, NJ 07719
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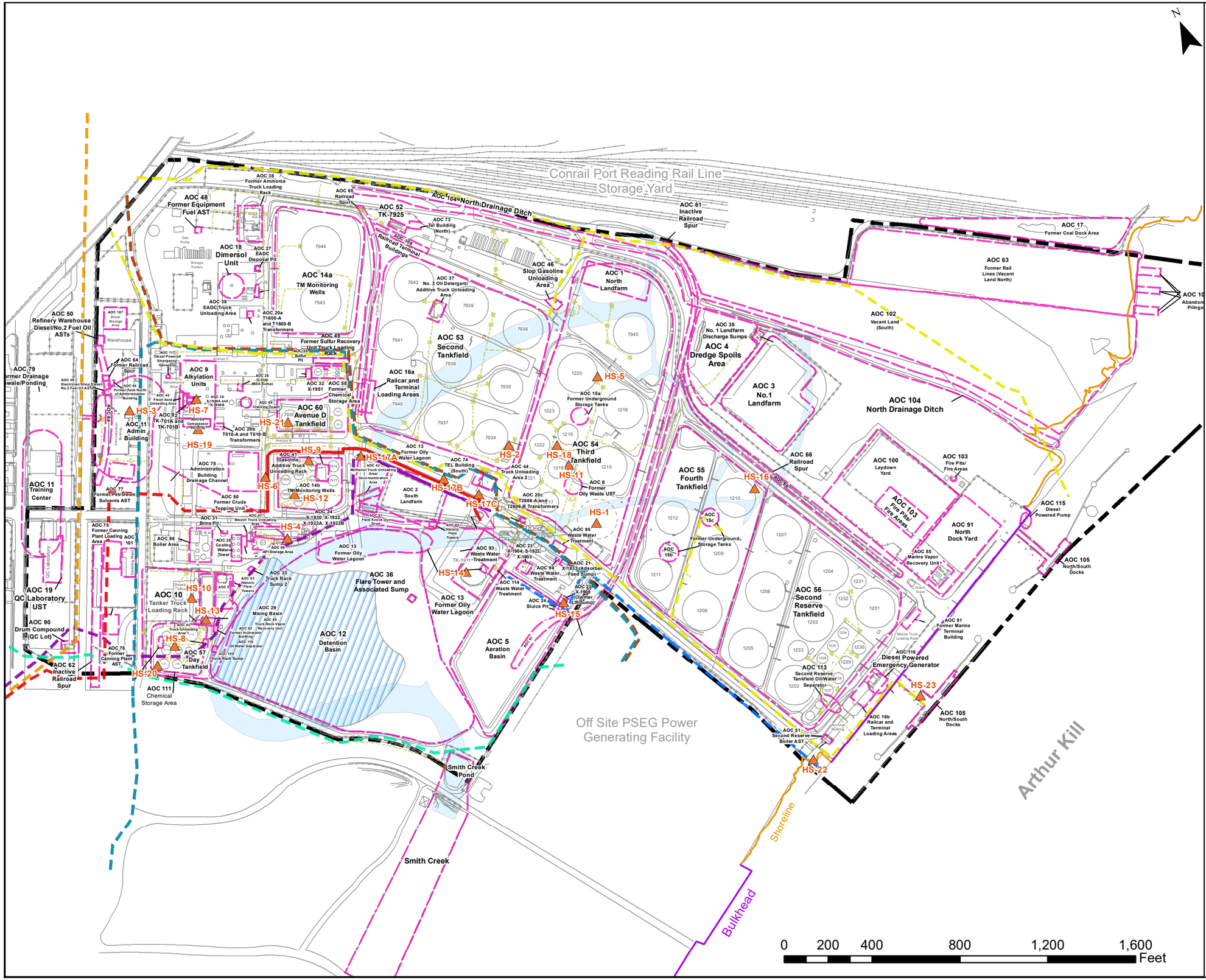

Legend

- Historical Spill Locations
- AOC Boundary
- Site Boundary
- Former Smith Creek Channel
- Detention Basin Historic Extents
- Detention Basin Current Extents
- Shoreline
- Bulkhead

Pipelines

- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline
- Sitewide Utilities

Pipelines:
- Soild Line: Aboveground
- Dotted Line: Underground

FIGURE: 5
HISTORIC SPILL LOCATIONS

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	04/22/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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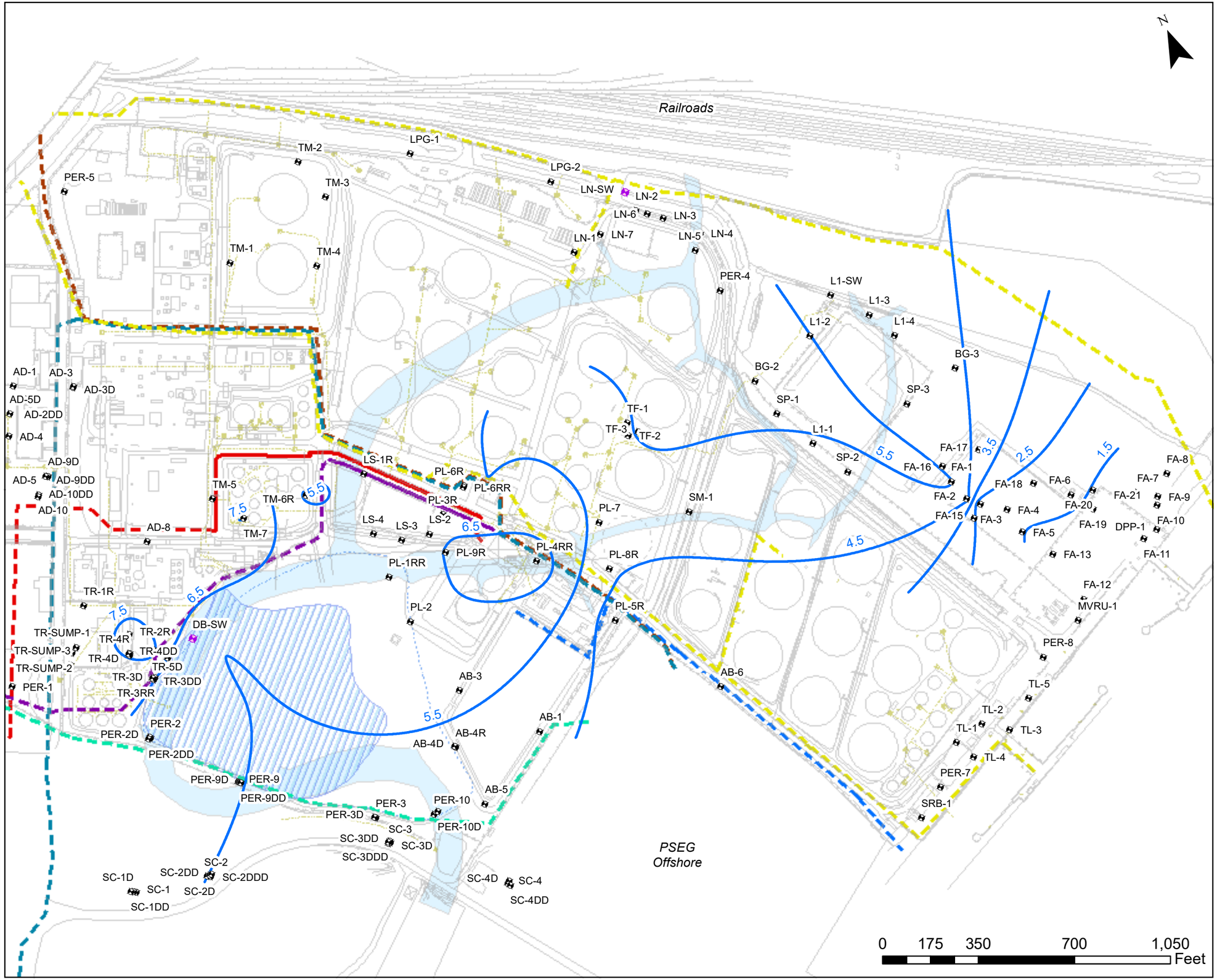


LEGEND

- Monitoring Well
- Surface Water Gauge
- Gauged Monitoring Well
- Groundwater Elevation Contour
- Former Smith Creek Channel
- AOC 12 Extent
- Basin Present Extents
- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline
- Sitewide Utilities

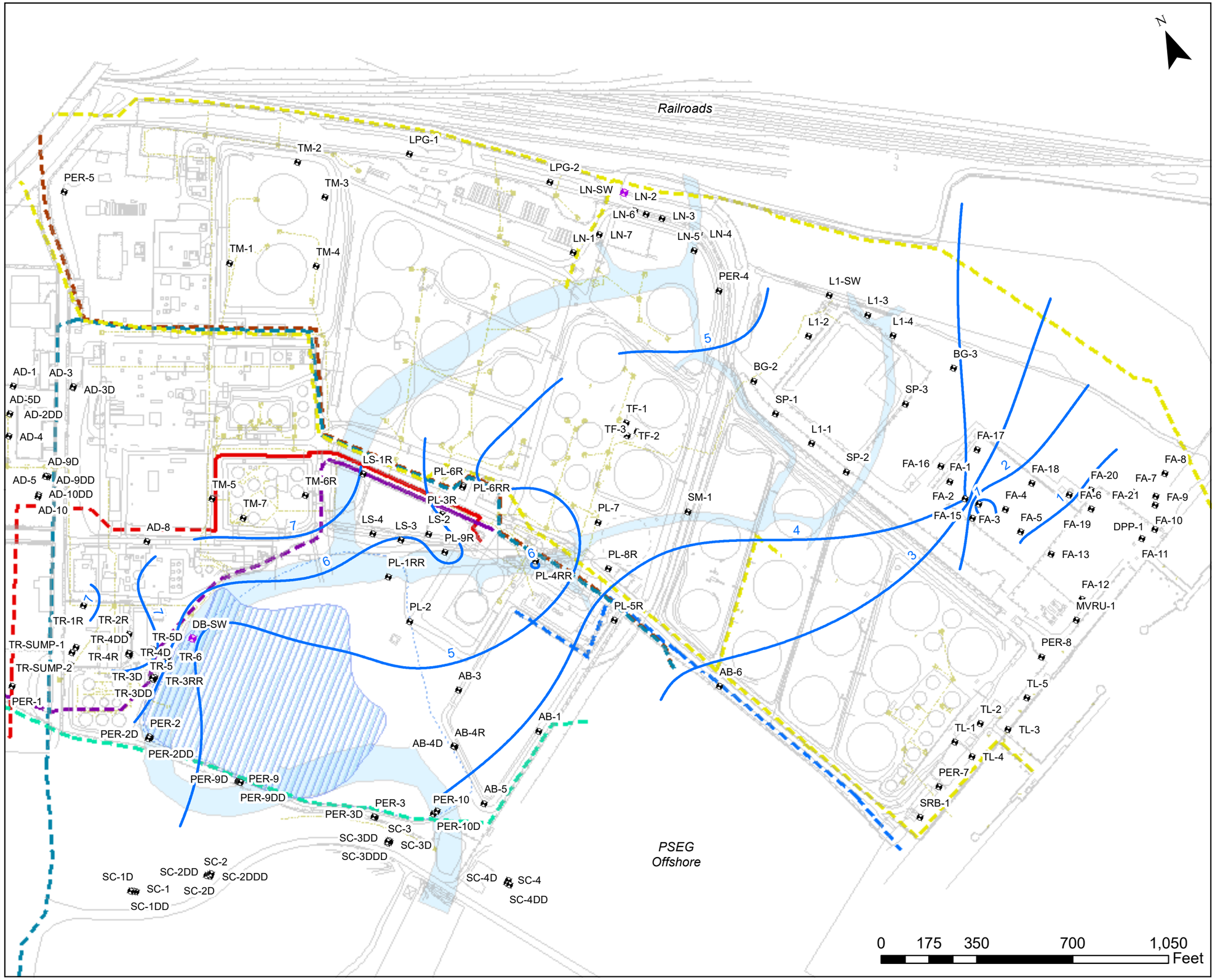
NOTE:
1. All wells gauged on July 20, 2022.

FIGURE: 6
JULY 2022
MONTHLY GAUGING CONTOUR MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	9/14/2022
SRP PI#:	006148	**Drawn By:**	SH

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451



LEGEND

- Monitoring Well
- Surface Water Gauge
- Gauged Monitoring Well
- Groundwater Elevation Contour
- Former Smith Creek Channel
- AOC 12 Extent
- Basin Present Extents
- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline
- Sitewide Utilities

NOTE:
1. All wells gauged on August 18, 2022.

FIGURE: 7
AUGUST 2022
MONTHLY GAUGING CONTOUR MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	9/14/2022
SRP PI#:	006148	**Drawn By:**	SH

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
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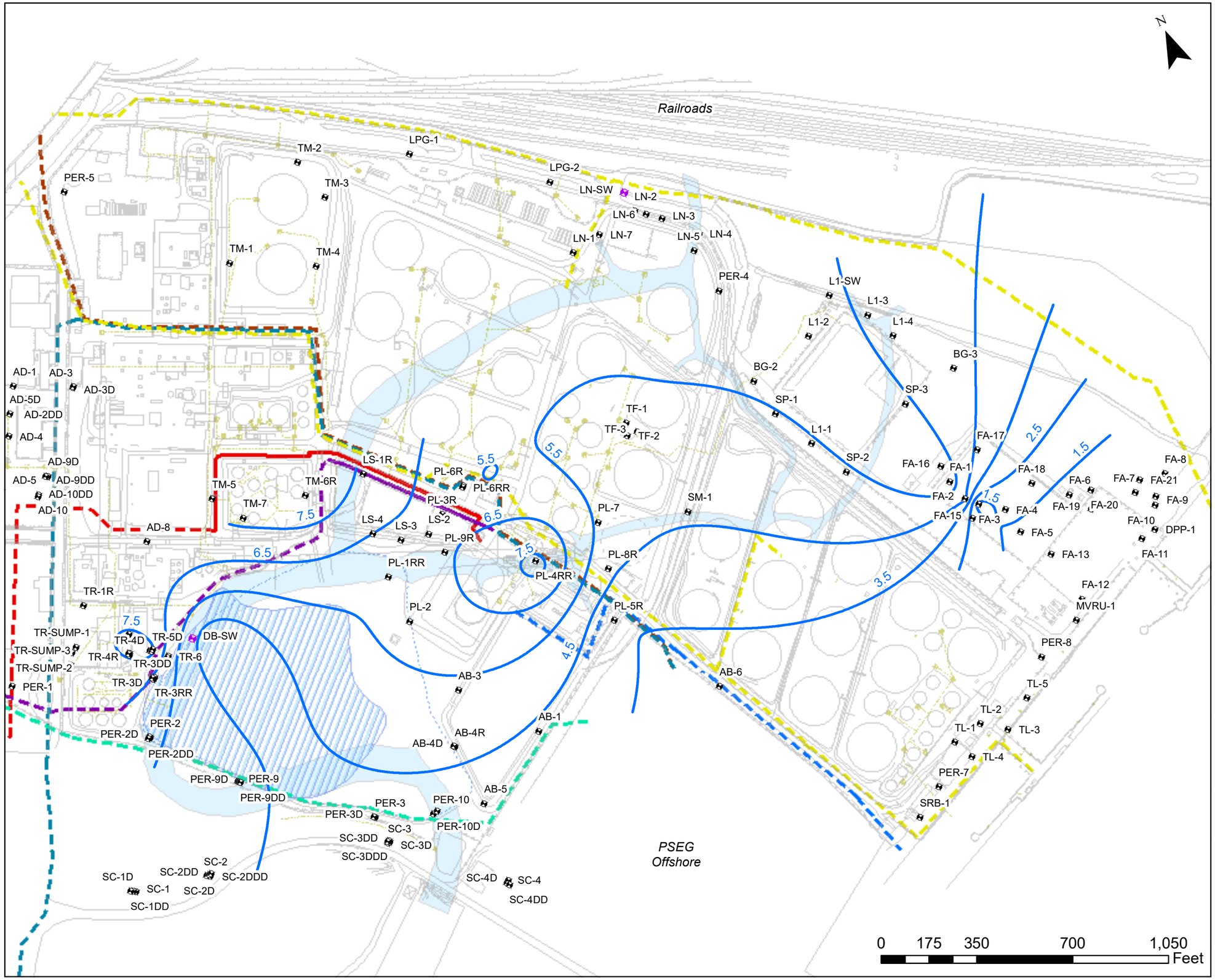
This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized. Source: NAD 1983 (2011) New Jersey State Plane. FIPS 2900 US FT.



LEGEND

- Monitoring Well
- Surface Water Gauge
- Gauged Monitoring Well
- Groundwater Elevation Contour
- Former Smith Creek Channel
- AOC 12 Extent
- Basin Present Extents
- 10" Spectra Natural Gas Pipeline
- 12" Spectra Pipeline
- 24" Outfall
- Buckeye Pipeline
- Buckeye Petroleum Pipeline - 608
- Buckeye Petroleum Pipeline - 609
- Colonial Pipeline
- Unknown Pipeline/ Utility
- Williams Pipeline
- Sitewide Utilities

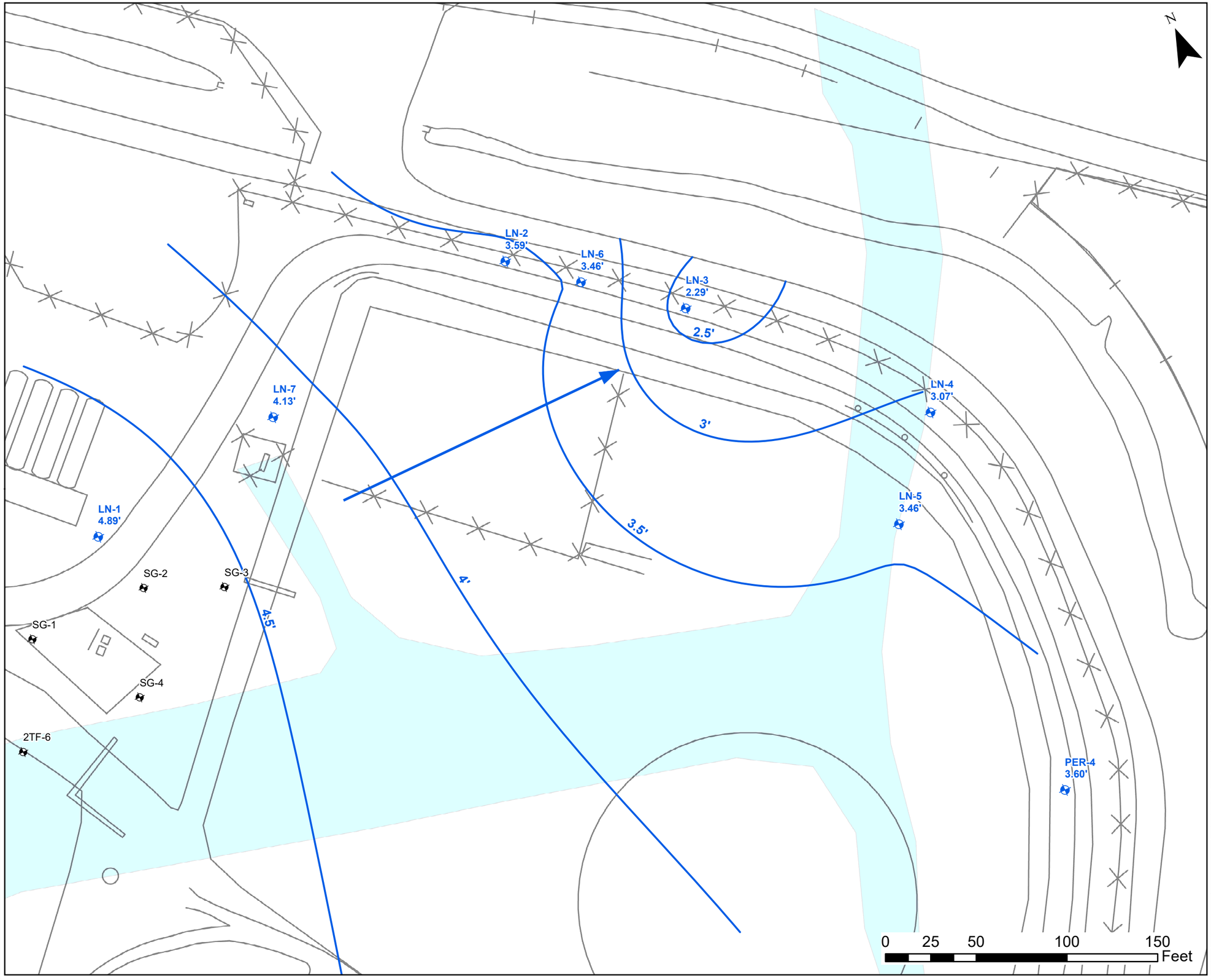
NOTE:
1. All wells gauged on September 1, 2022.

FIGURE: 8
SEPTEMBER 2022
MONTHLY GAUGING CONTOUR MAP

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	9/14/2022
SRP PI#:	006148	**Drawn By:**	SH

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451



LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Underground Utility Lines

LN-1 **WELL I.D.**
4.89' **GROUNDWATER ELEVATION (FT BGS)**

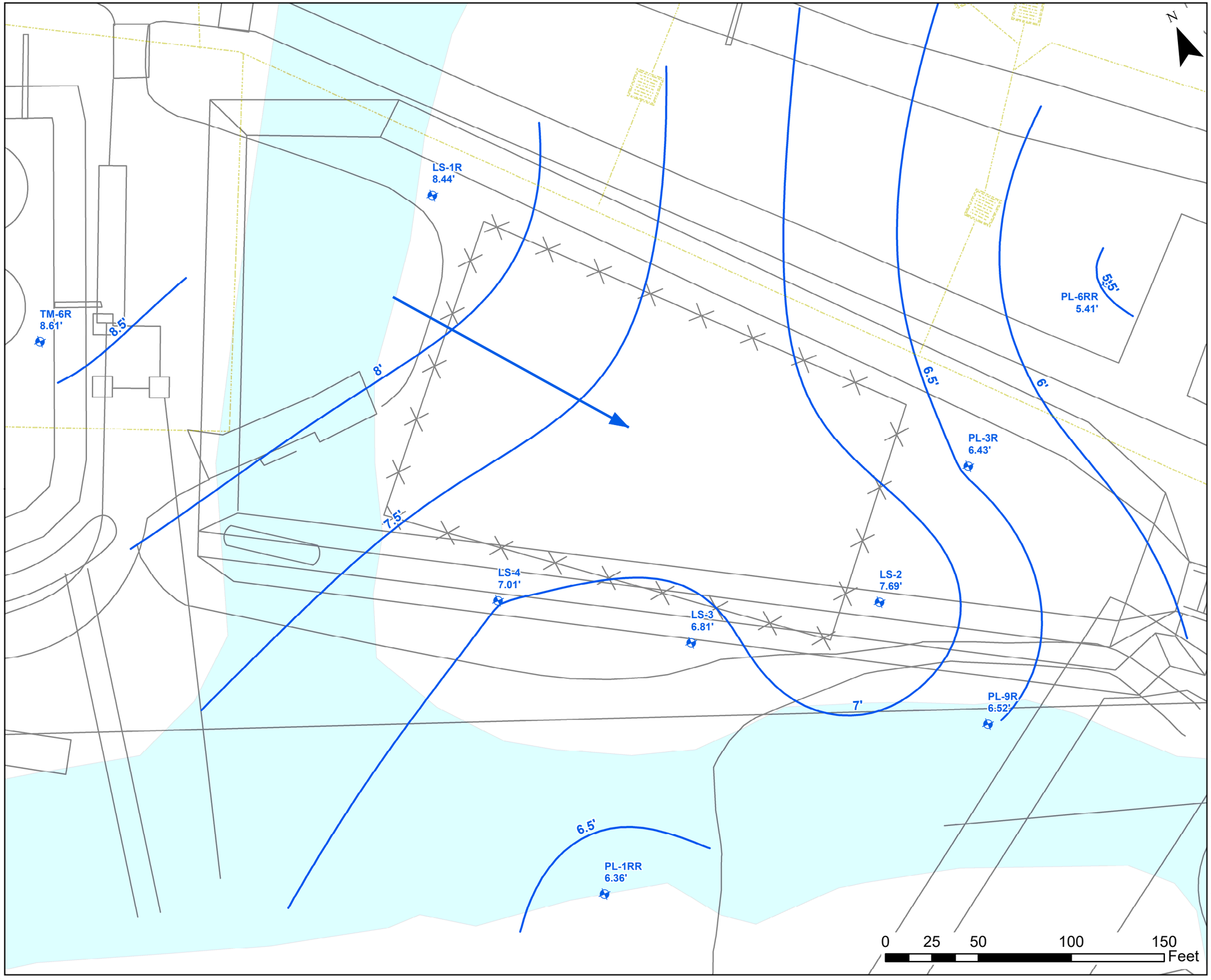
NOTE:
1. All wells gauged on July 7, 2022
2. LN-SW not gauged.

FIGURE: 9
Groundwater Contour Map
North Landfarm
July 2022

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	8/8/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451



LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Underground Utility Lines

LS-1R **WELL I.D.**
8.44' **GROUNDWATER ELEVATION (FT BGS)**

NOTE:
1. All wells gauged on July 7, 2022

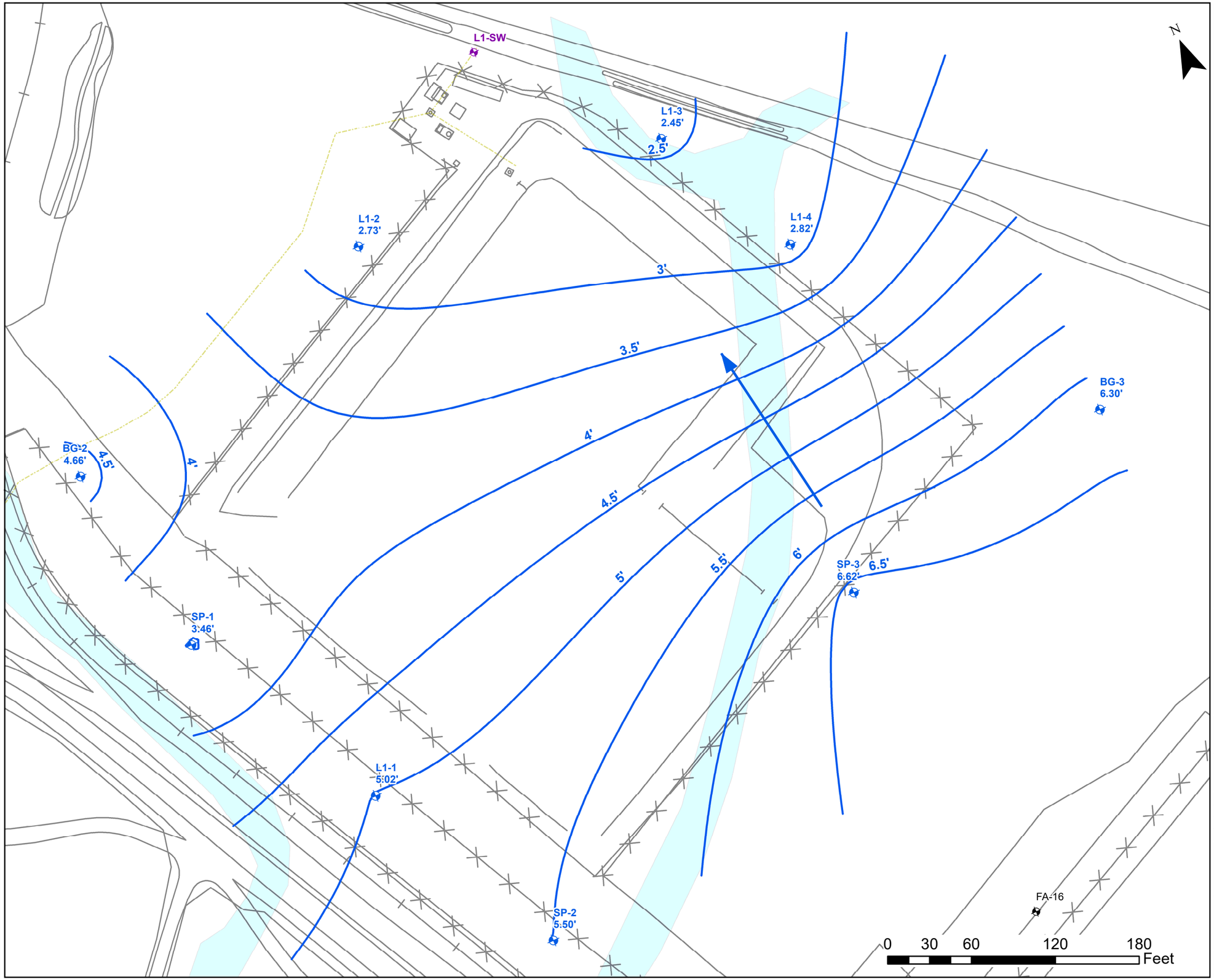
FIGURE: 10
Groundwater Contour Map
South Landfarm
July 2022

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	8/8/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

This map was developed using New Jersey Department of Environmental Protection Geographic Information System Digital Data, but this secondary product has not been verified by NJDEP and is not state Authorized.
Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.



LEGEND

- Surface Water Gauge
- Gauged Monitoring Well
- Monitoring Well
- Groundwater Elevation Contour
- Groundwater Flow Direction
- Former Smith Creek Channel
- Underground Utility Lines

L1-1 **WELL I.D.**
5.02' **GROUNDWATER ELEVATION (FT BGS)**

NOTE:
1. All wells gauged on July 7, 2022
2. L1-SW not gauged.

FIGURE: 11
Groundwater Contour Map
No. 1 Landfarm
July 2022

HESS CORPORATION
FORMER PORT READING COMPLEX
750 CLIFF ROAD
PORT READING, NEW JERSEY

Project #:	1114J01	**Drawn:**	8/8/2022
SRP PI#:	006148	**Drawn By:**	RC

Earth Systems
Environmental Engineering
1625 Highway 71, Belmar, NJ 07719
T. 732.739.6444 | F. 732.739.0451

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Source: NAD 1983 (2011) New Jersey State Plane FIPS 2900 US FT.

Tables

Table 1
Monthly Groundwater Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Groundwater Gauging Data									
Well I.D.	Date	Depth to LNAPL (ft)	Depth to Water (ft)	LNAPL Thickness (ft)	DTB from TOC (ft)	TOC Elevation (ft amsl)	Groundwater Elevation (ft amsl)	PID	Notes
PL-1RR	7/7/2022	0.99	1.00	0.01	15.20	7.36	6.36	15.2	Sock 1/4 saturated
	7/20/2022	-	1.48	-	15.20	7.36	5.88	39.2	Sock 1/4 saturated, replaced globules
	8/4/2022	-	1.78	-	15.20	7.36	7.11	61.0	Sock 1/4 saturated, replaced globules
	8/18/2022	-	2.12	-	15.00	7.36	5.24	32.8	Sock 1/2 saturated, replaced
	9/1/2022	-	1.80	-	14.90	7.36	5.56	12.8	Sock 1/2 saturated, replaced
	9/14/2022	-	0.4	-	14.90	7.36	6.96	7.2	Sock 1/4 saturated, replaced
PL-2	7/7/2022	4.32	4.39	0.07	17.40	9.58	5.19	13.7	Product in well, sock 1/4 saturated
	7/20/2022	-	3.27	-	17.39	9.58	6.31	40.1	Sock 1/4 saturated, replaced globules
	8/4/2022	-	3.63	-	16.86	9.58	5.95	17.7	
	8/18/2022	-	4.11	-	17.40	9.58	5.47	11.8	
	9/1/2022	-	3.52	-	17.40	9.58	6.06	45.8	Sock 1/4 saturated, replaced sock, sheen
	9/14/2022	-	2.53	-	17.40	9.58	7.05	36.2	Sock 1/2 saturated, replaced
PL-3R	7/7/2022	-	3.73	-	19.30	10.16	6.43	1.0	
	7/20/2022	-	3.78	-	19.30	10.16	6.38	29.7	
	8/4/2022	-	3.93	-	19.30	10.16	6.23	35.5	
	8/18/2022	-	4.18	-	19.10	10.16	5.98	0.0	
	9/1/2022	-	3.9	-	19.08	10.16	6.26	0.0	
	9/14/2022	-	3.52	-	19.09	10.16	6.64	49.8	
PL-4RR	7/7/2022	-	4.98	-	13.00	11.56	6.58	0.0	
	7/20/2022	-	4.53	-	13.00	11.56	7.03	0.0	
	8/4/2022	-	4.72	-	13.00	11.56	6.84	0.0	
	8/18/2022	-	5.52	-	13.00	11.56	6.04	0.0	
	9/1/2022	-	3.68	-	13.00	11.56	7.88	0.0	
	9/14/2022	-	s		13.00	11.56		0.0	
PL-5R	7/7/2022	2.29	2.92	0.63	9.80	6.54	4.14	85.2	Sock fully saturated, replaced sock
	7/20/2022	2.24	3.63	1.39	9.80	6.54	4.05	91.3	Sock fully saturated, replaced sock
	8/4/2022	2.6	3.70	1.1	9.80	6.54	3.74	56.0	Sock fully saturated, replaced sock
	8/18/2022	3.1	3.99	0.89	9.80	6.54	3.28	0.0	Sock fully saturated, replaced sock
	9/1/2022	2.89	3	0.11	9.80	6.54	3.63	0.0	Sock fully saturated, replaced sock
	9/14/2022	1.28	2.90	1.62	9.80	6.54	4.97	224.3	Sock fully saturated, replaced sock
PL-6RR	7/7/2022	-	1.47	-	15.10	6.88	5.41	0.0	
	7/20/2022	-	1.39	-	15.10	6.88	5.49	0.2	
	8/4/2022	-	1.43	-	15.20	6.88	5.45	0.0	
	8/18/2022	-	2.12	-	15.20	6.88	4.76	0.0	
	9/1/2022	-	1.45	-	15.20	6.88	5.43	0.0	
	9/14/2022	-	0.80	-	15.20	6.88	6.08	0.0	
PL-7R	7/7/2022	-	3.06	-	15.01	8.41	5.35	0.0	
	7/20/2022	-	3.20	-	15.01	8.41	5.21	0.0	
	8/4/2022	-	3.20	-	15.01	8.41	5.21	0.0	
	8/18/2022	-	3.43	-	15.01	8.41	4.98	0.0	
	9/1/2022	-	3.24	-	15.01	8.41	5.17	0.0	
	9/14/2022	-	2.58	-	15.01	8.41	5.83	0.0	
PL-8R	7/7/2022	-	4.98	-	22.40	9.91	4.93	0.0	
	7/20/2022	-	5.24	-	22.40	9.91	4.67	0.0	
	8/4/2022	-	5.26	-	21.82	9.91	4.65	0.0	
	8/18/2022	-	5.58	-	21.75	9.91	4.33	0.0	
	9/1/2022	-	5.19	-	21.75	9.91	4.72	0.0	
	9/14/2022	-	3.63	-	21.75	9.91	6.28	0.00	
PL-9R	7/7/2022	-	2.59	-	20.47	9.11	6.52	0.1	
	7/20/2022	-	2.59	-	20.45	9.11	6.52	0.0	
	8/4/2022	-	2.80	-	20.50	9.11	6.31	0.0	
	8/18/2022	-	2.99	-	22.48	9.11	6.12	0.0	
	9/1/2022	-	2.7	-	22.48	9.11	6.41	0.0	
	9/14/2022	-	1.79		22.48	9.11	7.32	0.0	
TF-1	7/7/2022	-	3.20	-	12.10	8.60	5.40	15.4	Globules, sock 1/4 saturated
	7/20/2022	-	3.24	-	12.10	8.60	5.36	6.3	Globules, sock 1/4 saturated
	8/4/2022	-	3.17	-	12.10	8.60	5.43	61.3	Globules, sock 1/4 saturated
	8/18/2022	-	4.03	-	12.10	8.60	4.57	0.4	Globules, sock 1/4 saturated
	9/1/2022	-	3.47	-	12.10	8.60	5.13	0.0	Globules, sock 1/4 saturated
	9/14/2022	-	1.70		12.10	8.60	6.90	57.30	Globules, sock 1/4 saturated
TF-2	7/7/2022	3.79	3.80	0.01	11.60	7.50	3.70	54.9	Sock 1/4 saturated, replaced
	7/20/2022	-	2.41	-	11.60	7.50	5.09	121.3	Sock 1/2 saturated, replaced
	8/4/2022	-	2.46	-	11.60	7.50	5.04	167.4	Sock 3/4 saturated, replaced
	8/18/2022	-	3.01	-	11.60	7.50	4.49	36.5	Sock 1/2 saturated, replaced
	9/1/2022	-	2.8	-	11.60	7.50	4.70		Sock 1/4 saturated, replaced
	9/14/2022	-	1.15	-	11.60	7.50	6.35	201.30	Sock 3/4 saturated, replaced
TF-3	7/7/2022	-	2.37	-	11.97	8.58	6.21	0.0	
	7/20/2022	-	2.82	-	11.95	8.58	5.76	1.5	
	8/4/2022	-	3.00	-	12.00	8.58	5.58	0.4	
	8/18/2022	-	3.71	-	11.95	8.58	4.87	0.0	
	9/1/2022	-	3.33	-	11.95	8.58	5.25	0.0	
	9/14/2022	-	1.54	-	11.95	8.58	7.04	0.00	
TM-6R	7/7/2022	-	5.65	-	20.61	14.26	8.61	46.1	Sock 1/4 absorbed
	7/20/2022	-	8.86	-	20.70	14.26	5.40	82.1	Sock 1/2 saturated, replaced
	8/4/2022	-	6.01	-	20.55	14.26	8.25	66.5	Sock 1/4 absorbed
	8/18/2022	-	6.30	-	20.70	14.26	7.96	48.1	
	9/1/2022	-	5.83	-	20.70	14.26	8.43	23.8	Sock 1/4 absorbed
	9/14/2022	-	5.23		20.70	14.26	9.03	77.8	Sock 1/4 saturated
TM-7	7/7/2022	-	7.24	-	21.98	14.81	7.57	85.1	Sock 1/4 absorbed
	7/20/2022	-	7.28	-	21.98	14.81	7.53	127.2	Sock 1/2 saturated, replaced
	8/4/2022	-	7.28	-	21.98	14.81	7.53	114.2	

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Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

TM-7	8/18/2022	-	7.43	-	21.98	14.81	7.38	61.8	Sock 1/4 absorbed
	9/1/2022	-	7.08	-	21.98	14.81	7.73	89.3	Sock 1/4 absorbed
	9/14/2022	-	6.82		21.98	14.81	7.99	77.0	
TR-1R	7/7/2022	-	6.35	-	15.00	13.68	7.33	0.0	
	7/20/2022	-	6.54	-	15.00	13.68	7.14	0.0	
	8/4/2022	-	6.47	-	15.00	13.68	7.21	3.7	
	8/18/2022	-	6.82	-	14.98	13.68	6.86	0.0	
	9/1/2022	-	6.55	-	14.98	13.68	7.13	0.0	
	9/14/2022	-	6.83	-	14.98	13.68	6.85	0.0	
TR-2R	7/7/2022	-	0.40	-	20.30	12.47	12.07	7.8	Discontinuous Sheen
	7/20/2022	-	0.60	-	19.74	12.47	11.87	316.3	Sheen, added sock
	8/4/2022	-	0.30	-	NM	12.47	12.17	99.9	Sock 1/4 saturated, sheen
	8/18/2022	-	0.75	-	19.75	12.47	11.72	121.8	sheen, replaced sock
	9/1/2022	-	0.25	-	19.75	12.47	12.22	234.1	Sheen, Sock 1/4 saturated
	9/14/2022	-	-		19.75	12.47	NM	NM	Underwater
TR-3RR	7/7/2022	-	3.00	-	15.10	9.63	6.63	0.0	
	7/20/2022	-	3.13	-	15.00	9.63	6.50	0.0	
	8/4/2022	-	3.28	-	14.90	9.63	6.35	0.0	
	8/18/2022	-	3.43	-	15.00	9.63	6.20	0.0	
	9/1/2022	-	3.28	-	15.00	9.63	6.35	0.0	
	9/14/2022	-	3.10		15.00	9.63	6.53	0.0	
TR-3D	7/7/2022	-	2.86	-	24.90	9.33	6.47	27.1	
	7/20/2022	-	2.97	-	24.91	9.33	6.36	28.0	
	8/4/2022	-	3.11	-	24.89	9.33	6.22	22.8	
	8/18/2022	-	3.34	-	24.90	9.33	5.99	89.3	
	9/1/2022	-	3.16	-	24.90	9.33	6.17	125.1	
	9/14/2022	-	3.30		24.90	9.33	6.03	31.8	
TR-3DD	7/7/2022	-	3.68	-	60.00	9.59	5.91	0.0	
	7/20/2022	-	3.30	-	59.20	9.59	6.29	1.5	
	8/4/2022	-	3.83	-	60.20	9.59	5.76	1.3	
	8/18/2022	-	4.03	-	60.20	9.59	5.56	2.4	
	9/1/2022	-	3.9	-	60.20	9.59	5.69	0.0	
	9/14/2022	-	3.94		60.20	9.59	5.65	0.0	
TR-4R	7/7/2022	-	3.69	-	13.50	12.48	8.79	134.4	
	7/20/2022	-	-	-	13.61	12.48	NM	NM	Could not access - Underwater
	8/4/2022	-	3.95	-	13.61	12.48	8.53	270.2	
	8/18/2022	-	4.10	-	13.61	12.48	8.38	375.0	
	9/1/2022	-	3.88	-	13.61	12.48	8.60	45.1	
	9/14/2022	-	-	-	13.61	12.48	NM	NM	Underwater
TR-4D	7/7/2022	-	5.38	-	24.60	12.18	6.80	0.0	
	7/20/2022	-	-	-	24.00	12.18	NM	NM	Could not access - Underwater
	8/4/2022	-	5.19	-	24.00	12.18	6.99	0.0	
	8/18/2022	-	5.36	-	24.00	12.18	6.82	0.0	
	9/1/2022	-	5.11	-	24.00	12.18	7.07	0.0	
	9/14/2022	-	-	-	24.00	12.18	NM	NM	Underwater
TR-4DD	7/7/2022	-	5.64	-	57.50	12.58	6.94	0.0	
	7/20/2022	-	5.75	-	56.70	12.58	6.83	0.0	
	8/4/2022	-	5.87	-	56.70	12.58	6.71	0.0	
	8/18/2022	-	6.08	-	56.70	12.58	6.50	0.0	
	9/1/2022	-	5.78	-	56.70	12.58	6.80	0.0	
	9/14/2022	-	-	-	56.70	12.58	NM	NM	Underwater
TR-5	7/7/2022	-	3.89	-	10.64	11.99	8.10	12.2	
	7/20/2022	-	4.10	-	10.65	11.99	7.89	189.4	
	8/4/2022	-	4.26	-	10.68	11.99	7.73	189.7	
	8/18/2022	-	4.30	-	10.68	11.99	7.69	152.1	
	9/1/2022	-	4.15	-	10.68	11.99	7.84	89.4	
	9/14/2022	-	4.53	-	10.68	11.99	7.46	162.3	
TR-5D	7/7/2022	-	5.15	-	23.40	12.01	6.86	0.0	
	7/20/2022	-	5.28	-	23.31	12.01	6.73	2.5	
	8/4/2022	-	5.48	-	23.25	12.01	6.53	2.7	
	8/18/2022	-	5.53	-	23.30	12.01	6.48	2.0	
	9/1/2022	-	5.3	-	23.30	12.01	6.71	1.5	
	9/14/2022	-	5.45		23.30	12.01	6.56	0.0	
TR-5DD	7/7/2022	-	4.93	-	60.00	11.64	6.71	0.0	
	7/20/2022	-	5.05	-	59.30	11.64	6.59	0.0	
	8/4/2022	-	5.17	-	59.30	11.64	6.47	4.4	
	8/18/2022	-	5.20	-	60.04	11.64	6.44	0.0	
	9/1/2022	-	5.05	-	60.04	11.64	6.59	0.0	
	9/14/2022	-	5.23		60.04	11.64	6.41	54.4	
TR-6	7/7/2022	-	4.16	-	12.60	10.78	6.62	0.0	
	7/20/2022	-	4.43	-	12.60	10.78	6.35	324.6	
	8/4/2022	-	4.68	-	13.00	10.78	6.10	316.3	
	8/18/2022	-	4.96	-	12.60	10.78	5.82	27.4	
	9/1/2022	-	4.81	-	12.60	10.78	5.97	12.3	
	9/14/2022	-	4.26		12.60	10.78	6.52	28.7	
TR-6D	7/7/2022	-	4.28	-	28.20	10.81	6.53	0.0	
	7/20/2022	-	4.42	-	28.20	10.81	6.39	0.0	
	8/4/2022	-	4.60	-	29.30	10.81	6.21	0.0	
	8/18/2022	-	5.02	-	28.20	10.81	5.79	0.0	
	9/1/2022	-	4.78	-	28.20	10.81	6.03	0.0	
	9/14/2022	-	4.57		28.20	10.81	6.24	0.0	
TR-Sump-1	7/7/2022	-	5.36	-	7.30	12.62	7.26	0.0	
	7/20/2022	-	5.33	-	7.30	12.62	7.29	0.0	
	8/4/2022	-	5.33	-	7.30	12.62	7.29	2.1	
	8/18/2022	-	5.67	-	7.30	12.62	6.95	0.0	
	9/1/2022	-	5.38	-	7.30	12.62	7.24	0.0	

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	9/14/2022	-	5.25		7.30	12.62	7.37	0.0	
TR-Sump-2	7/7/2022	-	5.07	-	7.20	12.35	7.28	0.0	
	7/20/2022	-	5.02	-	7.20	12.35	7.33	0.0	
	8/4/2022	-	5.05	-	7.20	12.35	7.30	1.5	
	8/18/2022	-	5.30	-	7.20	12.35	7.05	0.0	
	9/1/2022	-	5.06	-	7.20	12.35	7.29	0.0	
	9/14/2022	-	4.95		7.20	12.35	7.40	0.0	
Interceptor Trench	7/7/2022	-	1.15	-	5.00	-	-	3.3	Intermittent sheen on top of water. No measurable product.
	7/20/2022	-	0.80	-	5.00	-	-	25.5	Intermittent sheen on top of water. No measurable product.
	8/4/2022	-	1.00	-	5.00	-	-	7.5	Intermittent sheen on top of water. No measurable product.
	8/18/2022	-	1.50	-	5.00	-	-	8.8	Intermittent sheen on top of water. No measurable product.
	9/1/2022	-	1.50	-	5.00	-	-	12.8	Intermittent sheen on top of water. No measurable product.
	9/14/2022	-	1	-	5.00	-	-	0.0	Intermittent sheen on top of water. No measurable product.
DB-SW	7/7/2022	-	7.00	-	-	1.08	5.92	NM	
	7/20/2022	-	6.60	-	-	1.08	5.52	NM	
	8/4/2022	-	5.80	-	-	1.08	4.72	NM	
	8/18/2022	-	5.60	-	-	1.08	4.52	NM	
	9/1/2022	-	4.75	-	-	1.08	3.67	NM	
	9/14/2022	-	5.8			1.08	4.72	NM	
LN-SW	7/7/2022	-	2.80	-	-	-0.31	3.11	NM	
	7/20/2022	-	2.80	-	-	-0.31	3.11	NM	
	8/4/2022	-	2.60	-	-	-0.31	2.91	NM	
	8/18/2022	-	2.60	-	-	-0.31	2.91	NM	
	9/1/2022	-	2.60	-	-	-0.31	2.91	NM	
	9/14/2022	-	2.6			-0.31	2.91	NM	
L1-SW	7/7/2022	-	NM	-	-	-0.20	-	NM	Due to construction cannot read gauge
	7/20/2022	-	NM	-	-	-0.20	-	NM	Due to construction cannot read gauge
	8/4/2022	-	NM	-	-	-0.20	-	NM	Due to construction cannot read gauge
	8/18/2022	-	NM	-	-	-0.20	-	NM	Due to construction cannot read gauge
	9/1/2022	-	NM	-	-	-0.20	-	NM	Due to construction cannot read gauge
	9/14/2022	-	NM			-0.20	-	NM	Due to construction cannot read gauge
SC-SG-1	7/7/2022	-	NM	-	-	-0.98	-	NM	Could not read - covered in dirt
	7/20/2022	-	NM	-	-	-0.98	-	NM	Could not read - covered in dirt
	8/4/2022	-	NM	-	-	-0.98	-	NM	Could not read - covered in dirt
	8/18/2022	-	NM	-	-	-0.98	-	NM	Could not read - covered in dirt
	9/1/2022	-	NM	-	-	-0.98	-	NM	Could not read - covered in dirt
	9/14/2022	-	NM	-	-	-0.98	-	NM	Could not read - covered in dirt
SC-SG-1A	7/7/2022	-	NM	-	-	-1.10	-	NM	Stream Gauge destroyed
	7/20/2022	-	NM	-	-	-1.10	-	NM	Stream Gauge destroyed
	8/4/2022	-	NM	-	-	-1.10	-	NM	Stream Gauge destroyed
	8/18/2022	-	NM	-	-	-1.10	-	NM	Stream Gauge destroyed
	9/1/2022	-	NM	-	-	-1.10	-	NM	Stream Gauge destroyed
	9/14/2022	-	NM	-	-	-1.10	-	NM	Stream Gauge destroyed
SC-SG-2	7/7/2022	-	NM	-	-	-1.64	-	NM	Stream Gauge destroyed
	7/20/2022	-	NM	-	-	-1.64	-	NM	Stream Gauge destroyed
	8/4/2022	-	NM	-	-	-1.64	-	NM	Stream Gauge destroyed
	8/18/2022	-	NM	-	-	-1.64	-	NM	Stream Gauge destroyed
	9/1/2022	-	NM	-	-	-1.64	-	NM	Stream Gauge destroyed
	9/14/2022	-	NM	-	-	-1.64	-	NM	Stream Gauge destroyed
FA-1	7/7/2022	-	3.63	-	12.25	9.67	6.04	0.0	
	7/20/2022	-	4.13	-	12.05	9.67	5.54	0.0	
	8/4/2022	-	4.46	-	12.00	9.67	5.21	0.0	
	8/18/2022	-	4.75	-	12.10	9.67	4.92	0.0	
	9/1/2022	-	3.73	-	12.10	9.67	5.94	0.0	
	9/14/2022	-	4.16		12.10	9.67	5.51	0.0	
FA-2	7/7/2022	-	4.73	-	13.60	10.39	5.66	0.0	
	7/20/2022	-	5.55	-	13.40	10.39	4.84	0.0	
	8/4/2022	-	6.03	-	13.40	10.39	4.36	0.0	
	8/18/2022	-	6.25	-	13.41	10.39	4.14	0.0	
	9/1/2022	-	5.65	-	13.41	10.39	4.74	0.0	
	9/14/2022	-	6.08		13.41	10.39	4.31	0.0	
FA-3	7/7/2022	-	8.94	-	14.60	10.84	1.90	31.5	Sock 1/4 absorbed
	7/20/2022	-	9.13	-	14.50	10.84	1.71	10.2	Sock 1/2 saturated, replaced
	8/4/2022		10.34		14.50	10.84	0.50	6.9	
	8/18/2022	-	10.45	-	14.50	10.84	0.39	4.8	Sock 1/4 absorbed
	9/1/2022	-	9.75	-	14.50	10.84	1.09	3.4	Sock 1/4 saturated, replaced
	9/14/2022	-	9.05		14.50	10.84	1.79	1.4	Sock 1/4 saturated
FA-4	7/7/2022	-	9.20	-	14.50	10.98	1.78	0.0	
	7/20/2022	-	9.33	-	14.50	10.98	1.65	2.2	
	8/4/2022	-	9.48	-	14.40	10.98	1.50	29.8	
	8/18/2022	-	9.62	-	14.97	10.98	1.36	0.0	
	9/1/2022	-	9.20	-	14.90	10.98	1.78	0.0	
	9/14/2022	-	9.17	-	14.90	10.98	1.81	0.0	
FA-5	7/7/2022	6.5	6.70	0.2	14.50	10.22	3.52	46.2	Sock fully saturated, replaced
	7/20/2022		7.43		14.50	10.22	2.79	58.6	Sock fully saturated, replaced sock
	8/4/2022		6.57		14.50	10.22	3.65	63.0	Sock 1/2 saturated, replaced
	8/18/2022		6.79		14.50	10.22	3.43	49.4	Sock 1/2 saturated, replaced
	9/1/2022	6.41	6.45	0.04	14.50	10.22	3.77	65.3	Sock fully saturated, replaced sock
	9/14/2022	-	6.9	-	14.50	10.22	3.32	19.2	Sock 1/2 saturated, replaced
FA-6	7/7/2022	-	10.42	-	18.20	12.13	1.71	0.7	
	7/20/2022	-	10.38	-	18.20	12.13	1.75	6.5	added sock
	8/4/2022	-	10.81	-	18.10	12.13	1.32	1.7	Sock 1/4 saturated, replaced
	8/18/2022	-	11.03	-	18.10	12.13	1.10	4.5	Sock 1/4 saturated, replaced
	9/1/2022	-	10.97	-	18.10	12.13	1.16	0.0	Sock 1/4 saturated, replaced
	9/14/2022	-	8.95		18.10	12.13	3.18	48.3	Sock 1/2 saturated, replaced
	7/7/2022	-	9.53	-	18.15	10.14	0.61	0.0	

Table 1
Monthly Groundwater Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

FA-7	7/20/2022	-	9.40	-	18.00	10.14	0.74	0.0	
	8/4/2022	-	9.53	-	18.00	10.14	0.61	0.0	
	8/18/2022	-	9.83	-	18.15	10.14	0.31	0.0	
	9/1/2022	-	9.63	-	18.15	10.14	0.51	0.0	
	9/14/2022	-	8.43		18.15	10.14	1.71	0.0	
FA-14	7/7/2022	-	9.37	-	15.00	11.33	1.96	0.20	
	7/20/2022	-	9.47	-	15.00	11.33	1.86	1.6	added sock
	8/4/2022	-	9.74	-	15.00	11.33	1.59	0.6	
	8/18/2022	-	10.04	-	15.00	11.33	1.29	0.0	
	9/1/2022	-	9.58	-	15.00	11.33	1.75	0.0	
	9/14/2022	-	9.4	-		11.33	1.93	0.0	
FA-15	7/7/2022	-	9.09	-	15.00	11.29	2.20	0.3	
	7/20/2022	-	9.24	-	15.00	11.29	2.05	0.2	
	8/4/2022	-	9.47	-	15.00	11.29	1.82	0.4	
	8/18/2022	-	9.70	-	15.00	11.29	1.59	0.0	
	9/1/2022	-	9.57	-	15.00	11.29	1.72	0.0	
	9/14/2022	-	9.32	-	15.00	11.29	1.97	0.0	

Table 2
Quarterly Landfarms Monitoring Well Gauging Data
Hess Corporation - Former Port Reading Complex
750 Cliff Road
Port Reading, Middlesex County, New Jersey

Groundwater Gauging Data							
Well I.D.	**Date**	**Depth to LNAPL**	**Depth to Water**	**DTB from TOC**	**TOC Elevation**	**Water Elevation**	**PID**
LN-SW	7/7/2022	-	2.80	NA	-0.31	3.11	NA
LN-1	7/7/2022	-	5.48	14.86	10.37	4.89	1.4
LN-2	7/7/2022	-	6.06	12.00	9.65	3.59	0.0
LN-3	7/7/2022	-	6.63	13.12	8.92	2.29	0.5
LN-4	7/7/2022	-	7.62	15.20	10.69	3.07	0.0
LN-5	7/7/2022	-	7.11	17.55	10.57	3.46	0.0
LN-6	7/7/2022	-	8.69	17.80	12.15	3.46	0.0
LN-7	7/7/2022	-	9.17	17.90	13.30	4.13	0.0
PER-4	7/7/2022	-	6.70	16.45	10.30	3.60	0.0
LPG-2	7/7/2022	-	2.13	9.60	7.05	NA	0.0
DB-SW	7/7/2022	-	7.00	NA	-0.11	7.11	NA
LS-1R	7/7/2022	-	3.81	15.75	12.25	8.44	0.0
LS-2	7/7/2022	-	2.06	12.00	9.75	7.69	0.0
LS-3	7/7/2022	-	1.59	12.60	8.40	6.81	0.0
LS-4	7/7/2022	-	2.27	13.13	9.28	7.01	0.0
TM-6R	7/7/2022	-	5.65	19.80	14.26	8.61	46.1
PL-1RR	7/7/2022	0.99	1.00	14.70	7.36	6.36	15.2
PL-3R	7/7/2022	-	3.73	18.80	10.16	6.43	1.0
PL-6RR	7/7/2022	-	1.47	15.00	6.88	5.41	0.0
PL-9R	7/7/2022	-	2.59	19.90	9.11	6.52	0.1
L1-SW	7/7/2022	-	NM	NA	-0.20	NA	NA
L1-1	7/7/2022	-	4.89	NM	9.91	5.02	0.0
L1-2	7/7/2022	-	6.32	14.90	9.05	2.73	0.0
L1-3	7/7/2022	-	6.88	10.90	9.33	2.45	0.0
L1-4	7/7/2022	-	8.03	10.95	10.85	2.82	0.0
BG-2	7/7/2022	-	2.30	9.20	6.96	4.66	0.0
BG-3	7/7/2022	-	4.01	10.70	10.31	6.30	0.0
SP-1	7/7/2022	-	5.49	NM	8.95	3.46	0.0
SP-2	7/7/2022	-	4.68	NM	10.18	5.50	0.0
SP-3	7/7/2022	-	2.71	16.90	9.33	6.62	0.0

*Anomalous measurement/not used in contour figure
NA - Not Applicable
All Measurements are in feet
LNAPL - Light non Aqueous Phase Liquids
DTB - Depth to Bottom
TOC - Top of Casing
NM - Not Measured

Table 3
Monitoring Well Gauging Table - Historic LNAPL Hess Corporation - Former Port Reading Complex 750 Cliff Road
Port Reading, Middlesex County, New Jersey
Third Quarter

Third Quarter	2015						2016					
	July	IRM Actions	August	IRM Actions	September	IRM Actions	July	IRM Actions	August	IRM Actions	September	IRM Actions
FA-3	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA
FA-5	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA
PL-1RR	0.01	Sock deployed	0.01	Sock deployed	0.17	Sock Deployed	Sheen	NA	Sheen	NA	Sheen	NA
PL-2	0.02	Sock deployed	0.02	Sock deployed	0.04	Sock Deployed	0.00	NA	0.00	NA	0.00	NA
PL-5/PL-5R	NM	NA	NM	NA	NM	NA	NA	NA	NA	NA	NA	NA
PL-8R	0.00	NA	0.00	NA	0.00	NA	NA	NA	NA	NA	NA	NA
PL-9R	Sheen	NA	Sheen	NA	Sheen	NA	0.00	NA	0.00	NA	0.00	NA
TF-1	NM	NA	NM	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TF-2	NM	NA	NM	NA	NM	NA	0.50	Sock deployed	0.38	Sock deployed	0.28	Sock deployed
TF-3	NM	NA	0.00	NA	0.00	NA	Sheen	NA	0.00	NA	0.00	NA
TM-6R	NM	NA	NM	NA	NM	NA	0.00	NA	0.00	NA	0.00	NA
TM-7	0.05	Sock deployed	0.07	Sock deployed	0.01	Sock Deployed	0.05	Sock deployed	Sheen	NA	0.00	NA
TR-2R	0.01	Sock deployed	0.01	Sock deployed	0.02	Sock Deployed	0.03	Sock deployed	<0.1	Sock deployed	0.00	NA
TR-4R	0.00	NA	0.00	NA	0.00	NA	Sheen	NA	NM	NA	0.00	NA
TR-4DD	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6	0.01	Sock deployed	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6D	0.02	Sock deployed	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
Interceptor Trench	NM	NA	NM	NA	NM	NA	NA	NA	NA	NA	NA	280 Gallons Removed

Third Quarter	2017						2018					
	July	IRM Actions	August	IRM Actions	September	IRM Actions	July	IRM Actions	August	IRM Actions	September	IRM Actions
FA-3	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA
FA-5	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA	NI	NA
PL-1RR	0.01	NA	Sheen	NA	Sheen	NA	0.00	NA	0.00	NA	0.00	NA
PL-2	Sheen	Socky Deployed	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
PL-5/PL-5R	NM	NA	Sheen	NA	Sheen	NA	1.50	Socky Deployed	1.35	Socky Deployed	1.75	Socky Deployed
PL-8R	NM	NA	0.00	NA	0.00	NA	0.01	Socky Deployed	0.00	NA	0.00	NA
PL-9R	0.00	NA	0.00	0.00	NA	0.00	0.00	NA	0.00	NA	0.00	NA
TF-1	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TF-2	0.01	Socky Deployed	0.00	NA	0.01	Sock Deployed	0.00	NA	Sheen	NA	0.00	NA
TF-3	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TM-6R	0.00	NA	0.00	NA	0.00	NA	0.00	NA	Sheen	NA	Sheen	NA
TM-7	Sheen	NA	0.00	NA	0.00	NA	0.00	NA	Sheen	NA	Sheen	NA
TR-2R	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-4R	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-4DD	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6D	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
Interceptor Trench	0.5	NA	Indeterminable	NA	Indeterminable	NA	NA	NA	NA	857 Gallons Removed	NA	2018 Gallons Removed

Third Quarter	2019						2020					
	July	IRM Actions	August	IRM Actions	September	IRM Actions	July	IRM Actions	August	IRM Actions	September	IRM Actions
FA-3	NI	NA	NI	NA	NI	NI	0.00	NA	0.00	NA	0.00	NA
FA-5	NI	NA	NI	NA	NI	NI	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
PL-1RR	indeterminable	Sock deployed	NA	NA	Globules	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
PL-2	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
PL-5/PL-5R	indeterminable	Sock deployed	NA	NA	NM	NA	indeterminable	Sock deployed	0.70	Sock deployed	0.25	Sock deployed
PL-8R	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
PL-9R	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TF-1	0.00	NA	NA	NA	0.00	NA	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TF-2	Globules	Sock deployed	NA	NA	Globules	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TF-3	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TM-6R	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TM-7	Globules	Sock deployed	NA	NA	0.00	NA	Sheen	NA	Sheen	NA	Sheen	NA
TR-2R	0.00	NA	NA	NA	0.00	NA	Sheen	Sock deployed	Sheen	NA	Sheen	NA
TR-4R	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-4DD	0.00	NA	0.00	NA	0.00	NA	Sheen	NA	Sheen	NA	Sheen	NA
TR-6	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
TR-6D	0.00	NA	NA	NA	0.00	NA	0.00	NA	0.00	NA	0.00	NA
Interceptor Trench	NM	95 Gallons Removed from PL-5R and Interceptor Trench	NM	NA	NM	157 Gallons Removed from Interceptor Trench	0.5	202 Gallons Removed from Interceptor Trench and PL-5R	1.6	NA	0.8	229 Gallons Removed from Interceptor Trench and PL-5R

Third Quarter	2021						2022					
	July	IRM Actions	August	IRM Actions	September	IRM Actions	July	IRM Actions	August	IRM Actions	September	IRM Actions
FA-3	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	0.00	Sock deployed	0.00	Sock deployed	0.00	Sock deployed
FA-5	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	0.20	Sock deployed	0.00	Sock deployed	0.04	Sock deployed
PL-1RR	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	0.01	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
PL-2	0.00/0.00	NA/NA	0.00/0.00	NA/NA	0.00/0.00	NA/NA	0.07	Sock deployed	0.00	Sock deployed	Sheen	Sock deployed
PL-5/PL-5R	0.30/0.02	Sock deployed/Sock deployed	0.19/0.28	Sock deployed/Sock deployed	0.25/0.02	Sock deployed/Sock deployed	1.39	Sock deployed	1.10	Sock deployed	1.62	300 Gallons Removed from Interceptor Trench and PL-5R
PL-8R	0.00/0.00	NA/NA	0.00	0.00/0.00	0.00/NM	NA/NA	0.00	NA	0.00	NA	0.00	NA
PL-9R	0.00/0.00	NA/NA	0.00	0.00/0.00	0.00/0.00	NA/NA	0.00	NA	0.00	NA	0.00	NA
TF-1	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/NM	Sock deployed/NA	0.00	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TF-2	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/Sheen	Sock deployed/Sock deployed	Sheen/NM	Sock deployed/NA	0.01	Sock deployed	0.00	Sock deployed	0.00	Sock deployed
TF-3	0.00/0.00	NA/NA	0.00/0.00	NA/NA	0.00/NM	NA/NA	0.00	NA	0.00	NA	0.00	NA
TM-6R	0.00/0.00	NA/NA	0.00/0.00	NA/NA	0.00/0.00	Sock deployed/NA	0.00	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TM-7	0.00/0.00	NA/NA	0.00/NM	0.00/0.00	Sheen/Globules	NA/NA	0.00	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TR-2R	Sheen/Sheen	NA/Sock deployed	Sheen	NA	0.00/0.00	NA/NA	Sheen	Sock deployed	Sheen	Sock deployed	Sheen	Sock deployed
TR-4R	0.00/0.00	NA/NA	0.00/NM	NA/NA	0.00/0.00	NA/NA	0.00	NA	0.00	NA	0.00	0.00
TR-4DD	0.00/0.00	NA/NA	0.00/NM	NA/NA	Sheen/0.00	NA/NA	0.00	NA	0.00	NA	0.00	0.00
TR-6	0.00/0.00	NA/NA	0.00/NM	NA/NA	0.00/0.00	NA/NA	0.00	NA	0.00	NA	0.00	0.00
TR-6D	0.00/0.00	NA/NA	0.00/NM	NA/NA	0.00/0.00	NA/NA	0	NA	0	NA	0	NA
Interceptor Trench	NM	349 Gallons Removed from PL-5R and Interceptor Trench	NM/NM	484 Gallons Removed from Interceptor Trench and PL-5R	NM/NM	NA/NA	Sheen	NA	Sheen	NA	Sheen	300 Gallons Removed from Interceptor Trench and PL-5R

IRM - Intermim Remedial Measures

Appendix A

STRAIGHT BILL OF LADING – SHORT FORM

NOTICE: Shippers of hazardous materials must enter 24-hour emergency response telephone number under "Emergency Response Phone Number.

Shipping Order

Date: Sept 23 - 2022 | Bill of Lading No. 092322-Hess

Shipper No. ______

Carrier No. Truck

Craft Industrial Cleaning. (Name of Carrier)

TO: Consignee: Vorco	FROM: Shipper: Hess Remediation @ Buckeye Port
Street: 450 South Front St	Street: 750 Cliff Rd
Destination: Elizabeth Zip Code: NJ	Origin: Port Reading Zip Code: NJ
Route: Best Way	Vehicle No.: 19
SCAC	Emergency Response Phone Number

No. Shipping Units	+HM	Kind of Packaging, Description of Articles Special Marks and Exceptions — Commodities requiring special or additional care or attention in handling or stowing must be so marked and packaged as to ensure safe transportation with ordinary care. See Section 2(e) of National Motor Freight Classification, Item 360.	Weight (Subject to Correction)*	Rate or Class	CHARGES
Gallons					
300		Petroleum Contacted Water (P.C.W.)			
		I.D. 72.			
		Non DOT / Non RCRA			
		NJD 037 - 003099.			

Vorco To Invoice Hess

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight". | REMIT C.O.D. TO: ADDRESS | C.O.D. Amt: $ | C.O.D. FEE PREPAID ☐ COLLECT ☐ $ | TOTAL CHARGES $

Note–Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.

The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding

$ ______ per ______

Subject to Section 7 of the conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement.

The carrier shall not make delivery of this shipment without payment of freight and all other charges.

______ (Signature of Consignor)

FREIGHT CHARGES
Check Appropriate Box:
☐ Freight prepaid
☐ Collect

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of, said property over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment or (2) in the applicable motor carrier classification or tariff, if this is a motor carrier shipment. Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Mark with "RQ" if appropriate to designate Hazardous Materials as defined in the U.S. Department of Transportation Regulations governing the transportation of hazardous materials. The use of this column is an optional method for identifying hazardous materials on Bills of Lading per 172.201(a)(1) (iii) of Title 49 Code of Federal Regulations. Also, when shipping hazardous materials, the shipper's certification statement prescribed in section 172.204(a) of the Federal Regulations, as indicated on the Bill of Lading does apply, unless a specific exception from the requirement is provided in the Regulation for a particular material.

The format and content of hazardous item list is the responsibility of individual company interpretation of requirements as described in 49 Code of Federal Regulations 172, Subpart C-Shipping Papers. Such description consists of the following per Sections 172.201 (Hazardous Material Table) and Sections 172.202 and 172.203: Proper shipping name, hazardous class, UN identification number, packing group, and subsidiary class(es).

Note: Liability limitation for loss or damage in this shipment may be applicable. See 49 United States Code, Sections 14706(c (1)(A) and (B).

SHIPPER	CARRIER
PER Hess Corp	PER [signature]

2 This is to certify that the above named materials are properly classified, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the U.S. Department of Transportation.

Carrier acknowledges receipt of packages and any required placards. Carrier certifies emergency response information was made available and/or carrier has the U.S. Department of Transportation emergency response guidebook or equivalent documentation in the vehicle. Property described above is received in good order, except as noted.